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Bureau of Land Management**

**Environmental Assessment
DOI-BLM-UT-C010-2015-0039-EA**

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Iron Springs Solar Project Generation Tie Line

Location: Northwest of Cedar City, Iron County, Utah

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LIST OF ACRONYMS

APLIC applicant	Avian Power Line Interaction Committee Iron Springs Solar, LLC
BLM	Bureau of Land Management
CBGA RMP	Cedar, Beaver, Garfield, Antimony Resource Management Plan
CCFO	Cedar City Field Office
CEA	Cumulative Effects Area
CFR	Code of Federal Regulations
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENBB	Environmental Notification Bulletin Board
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
ft	feet
gen-tie	generation-tie
GTPSRMA	Greater Three Peaks Special Recreation Management Area
I	Interstate
kV	kilovolt
MW	megawatt
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
PITU	Paiute Tribe of Utah
POD	Plan of Development
POI	Point of Interconnection
PPA	Power Purchase Agreement
PV	photovoltaic
ROW	right-of-way

S.L.B. & M.	Salt Lake Base and Meridian
SHPO	State Historic Preservation Office
SITLA	State of Utah School and Institutional Trust Lands Administration
SR	State Route
 Tetra Tech	 Tetra Tech, Inc.
 UDWR	 Utah Division of Wildlife Resources
UNHP	Utah Natural Heritage Program
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

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CHAPTER 1

INTRODUCTION AND NEED FOR THE PROPOSED ACTION

INTRODUCTION

Iron Springs Solar, LLC (applicant), a wholly owned subsidiary of SunEdison, LLC, has filed an SF-299 Application for Transportation and Utility Systems and Facilities on Federal Lands within the Bureau of Land Management (BLM)'s Cedar City Field Office (CCFO). The applicant proposes to construct, own, and operate the Iron Springs Solar Project, an 80 megawatt (MW) solar photovoltaic (PV) electricity generating facility located on approximately 883 acres of land within unincorporated Iron County. The proposed Project includes construction and operation of a 138 kilovolt (kV) generation-tie (gen-tie) line to connect the electricity generated from the Project to the Rocky Mountain Power Three Peaks Substation, the Point of Interconnection (POI) for the Project (see Figure 1). The applicant is requesting a right-of-way (ROW) grant for the 2.14 mile gen-tie line on BLM-administered lands. The new ROW is requested for 30 years, with an option to renew. The Federal Action is to respond to a ROW application submitted by the applicant by making a decision on whether or not the BLM should grant a Federal Land Policy and Management Act (FLPMA) Title V ROW as described under the Proposed Action.

This Environmental Assessment (EA) is a site-specific analysis of potential impacts that could result from the implementation of the Proposed Action or Alternatives to the Proposed Action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any “significant” impacts (defined under 40 Code of Federal Regulations [CFR] 1508.27) could result from the Proposed Action. “Significance” is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impact” (FONSI). If the decision makers determine that this project has “significant” impacts following the analysis in the EA, then an EIS would be prepared for the Project. If not, a Decision Record (DR) may be signed for the EA approving the selected alternative, whether the Proposed Action or another alternative. A DR including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in “significant” environmental impacts beyond those already addressed in the Cedar, Beaver, Garfield, Antimony Resource Management (CBGA RMP), approved in 1986 (BLM 1986).

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the action is to provide the applicant with access across public land managed by the BLM. The need for the BLM action is established by the BLM's responsibility under Title V, Section 501, of the FLPMA (43 U.S.C. §1761) and regulations at 43 CFR 2800 to respond to a request for a ROW grant while avoiding or minimizing adverse impacts to other resource values and locating the uses in conformance with land-use plans.

The need for the gen-tie line is to provide power generated from the proposed solar facility to the POI substation, as per the executed Power Purchase Agreement (PPA) with Rocky Mountain Power.

CONFORMANCE WITH BLM LAND USE PLAN(S)

The requested ROW is within the Greater Three Peaks Special Recreation Management Area (GTPSRMA), administered by the BLM CCFO. Land use decisions for BLM-administered land in the project area are contained in the CBGA RMP (BLM 1986), as amended.

Development of utility infrastructure is recognized as an appropriate use of public lands in the CBGA RMP. The Proposed Action and alternatives are in conformance with the approved CBGA RMP management objective to “provide more effective public land management and to improve land use, productivity and utility through: a) accommodation of community expansion and economic development needs; b) improved land ownership patterns; and c) providing for the authorization of legitimate uses of public lands by processing use authorization such as rights-of-way, leases, permits, and State land selections in response to demonstrated public need.” The Project is specifically provided for in Decision 3.1, which states that applications for use authorizations such as rights-of-way, leases, and permits be processed on a case-by-case basis. It has been determined that the Proposed Action and alternative(s) would not conflict with other decisions throughout the plan.

Development of utility infrastructure is also recognized as an appropriate use of public lands in the GTPSRMA EA (BLM 2005). The Proposed Action is in conformance with the GTPSRMA EA objective to “Establish water and/or power lines along or under existing roads and trails when possible to minimize disturbance to new areas.” The Project would be built adjacent to an existing 230 kV transmission line ROW and would minimize disturbance to new areas of the GTPSRMA.

RELATIONSHIPS TO STATUTES, REGULATIONS AND OTHER PLANS

This EA is being prepared in accordance with NEPA for projects involving federal lands. Title I of FLPMA declares that public lands will be managed in a manner “...that will provide for outdoor recreation and human occupancy and use.” Title V of FLPMA gives authorization to the Secretary to grant ROWs over such lands for “systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communication.” The request for the ROW for this Proposed Action has been submitted to the BLM under Title V of FLPMA.

The Proposed Action is consistent with federal, state and local laws, regulations, and plans to the maximum extent possible, including the following:

- Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776, 43 U.S.C. 1761) and the regulations issued there under at 43 Code of Federal Regulations, part 2800.
- Taylor Grazing Act of 1934
- Utah Standards and Guidelines for Rangeland Health
- Federal Land Policy and Management Act of 1976

- Regulations found at 43 CFR 2800
- Section 106 of the National Historic Preservation Act of 1966, as amended
- Memorandum of Understanding Between the BLM CCFO and Paiute Indian Tribe of Utah
- Utah Prairie Dog Habitat Conservation Plan
- 1962 Bald and Golden Eagle Protection Act
- Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), as amended.
- BLM Manual 6840- Special Status Species Management
- Migratory Bird Treaty Act
- Utah Comprehensive Wildlife Conservation Strategy
- Utah Partners in Flight Avian Conservation Strategy Version 2.0.
- Birds of Conservation Concern 2008
- Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds
- IM 2008-050, Migratory Bird Treaty Act - Interim Management Guidance
- Best Management Practices for Raptors and Their Associated Habitats in Utah (IM: 2006-096)
- GTPSRMA EA
- Iron County, Utah Code of Ordinances

Utah's Standards for Rangeland Health address upland soils, riparian/wetlands, desired and native species and water quality. These resources are either analyzed later in this document or, if not impacted, are listed in the attached Interdisciplinary Team Checklist (Appendix A).

Issuing a ROW across BLM-administered lands to allow construction of a generation-tie line for purposes of providing electric power to the local electric transmission grid would be in accordance with BLM policy and authority. The ROW grant application would be subject to standard approval procedures as outlined in the ROW grant regulations (43 C.F.R. 2800).

The Project would comply with State of Utah and Iron county statutes and applicable zoning regulations, and be consistent with relevant State and Iron county land use plans. The applicant has applied for a Conditional Use Permit from Iron County for the Iron Springs Solar Project and the portion of the gen-tie line on private lands within unincorporated Iron County.

IDENTIFICATION OF ISSUES AND AFFECTED RESOURCES

Public notification of the Project will be provided via the Environmental Notification Bulletin Board (ENBB), a BLM internet web site used to notify the public of potential projects on public lands in Utah. The project was entered onto the ENBB on March 18, 2015.

Resources Dismissed from Additional Analysis

Resources which have been determined by BLM resource specialists to be not present in the area addressed in this EA or would not be affected are identified (determination of NP or NI) and summarized in the Cedar City Field Office's Interdisciplinary Team Checklist (Appendix A).

Issues Carried Forward for Analysis

Based on the Interdisciplinary Team Checklist (Appendix A), the following issues were carried forward for analysis in this EA:

- Fish and Wildlife
- Livestock Grazing
- Migratory Birds
- Rangeland Health Standards
- Socioeconomics
- Special Status Animal Species
- Vegetation

Summary

This chapter has presented the purpose and need for the Project, as well as the relevant issues, i.e., those elements that could be affected by the implementation of the Project. The Proposed and No Action Alternatives are presented in Chapter 2. The existing and/or affected environment is described for those resources potentially impacted by the Project in Chapter 3. The potential environmental impacts or consequences resulting from the implementation of the Proposed and No Action Alternatives are then analyzed in Chapter 4 for each of the identified issues. A summary of the public and agency consultation and coordination that BLM conducted for the Project in accordance with the NEPA and other regulations is described in Chapter 5. References cited in this EA are listed in Chapter 6.

CHAPTER 2

DESCRIPTION OF ALTERNATIVES

INTRODUCTION

This EA focuses on the Proposed Action and No Action alternatives. Other alternatives were not considered because the issues identified during scoping did not indicate a need for additional alternatives or mitigation beyond those contained in the Proposed Action. The No Action Alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action.

PROPOSED ACTION

The Proposed Action includes construction and operation of a 138 kV gen-tie line to connect the electricity generated from the Project to the Rocky Mountain Power Three Peaks Substation (see Figure 1). The total length of the gen-tie route is 5.76 miles; 3.62 miles would be located on privately-owned lands within unincorporated Iron County and 2.14 miles would be located on BLM-administered lands.

The gen-tie route would be sited adjacent to an existing 230 kV transmission line. The center line of the proposed gen-tie line would be 100 feet west of the as-built center line of the existing 230 kV transmission line. A total of 2.14 miles of the gen-tie route would be sited on BLM-administered lands within the GTPSRMA, and the remainder of the gen-tie route would be sited within unincorporated Iron County (see Figure 1). The requested ROW would be 100 feet wide and would be parallel to and adjacent to the existing 230 kV transmission line ROW through the entire length of the gen-tie within BLM-administered lands.

The applicant will need access to the proposed ROW prior to issuance of the ROW grant to conduct routine geotechnical analysis at the proposed pole locations. The applicant will file a separate application with BLM for this purpose, and will obtain all required approvals prior to this analysis.

Details of the Proposed Action, including construction, operation and maintenance, and Design Features to Reduce Impacts, are contained in the Final Plan of Development (POD), Appendix B, beginning on Page 6.

Right-of-Way

This ROW request is to use 25.834 acres of BLM-administered public land for a proposed 138 kV transmission line. The gen-tie corridor would extend from the applicant's Iron Springs Solar Project gen-tie line in Section 25, T. 35 S., R. 12 W., Salt Lake Base and Meridian (S.L.B. & M.), directly north terminating in Section 35, T. 34 S., R. 12 W., S.L.B. & M.

The ROW requested on BLM-administered land is 100 feet wide (50 feet on each side of the center line). This width would encompass the transmission line poles, access roads, and guy wires extending out from the poles. In addition to BLM-administered lands, the gen-tie corridor would cross 3.62 miles of privately owned land administered by Iron County.

Facility Design

The design of the gen-tie line is being finalized. The facility design as proposed in this EA is a conservative design that incorporates a worst case scenario (i.e., maximum anticipated disturbance). It is anticipated that final design would result in fewer temporary and permanent impacts than proposed in this EA. Prior to issuance of the ROW grant, the applicant would provide the final design and disturbance information to BLM as part of the final POD submittal.

The gen-tie line would be supported on monopole wood structures (see Appendix B). The gen-tie line would have approximately 36 structures on BLM-administered land. Up to 60 additional structures would be installed on private property in unincorporated Iron County. Poles would be between 80 and 110 feet in height from ground to top. The distance from the pole to the conductor attached to each insulator would be at least 29 inches. There would be 13.5 horizontal feet between each phase conductor. The gen-tie line design would follow APLIC guidelines for the design of overhead lines (APLIC 2006).

Access

Primary access to the ROW would be via existing county roads, where available. The portion of the gen-tie on BLM-managed lands is not adjacent to an existing county road. For the sections of the ROW that do not parallel an existing county road, a permanent, bladed access road would be constructed within the ROW. A total of 2.14 miles of access roads would be constructed within the BLM ROW. The access roads would be bladed routes (constructed to Rocky Mountain Power standards) measuring approximately 25 feet in width, totaling 6.47 acres of temporary disturbance within the BLM ROW during construction of the Project. Following construction, the access roads would be reclaimed to 12 feet in width, totaling 3.11 acres of permanent disturbance within the BLM ROW for the life of the Project.

Facility Construction

Prior to construction, large vegetation, including trees and larger shrubs (vegetation that would be more than 5 feet high at maturity), would be removed from temporary access routes and within the wire zone to meet the above described specifications. Trees in the wooded areas within the wire zone (35 feet wide for single poles and 50 feet wide for double poles) of the ROW would be cleared to avoid potential contact with conductors and other potential construction and maintenance problems associated with the trees, such as interference with equipment operation or those that pose a threat to the safety of workers. Trees would be felled using a chainsaw and would be mulched and scattered within the ROW. The ROW would be reseeded using the seed mix provided by BLM (see Appendix B). Given the vegetation communities present within the ROW, minimal maintenance of vegetation within the border zone would be anticipated to maintain trees and shrubs below 25 feet in height.

The timeframe for construction of the gen-tie line would be November 2015 through June 2016. If construction continues into the 2016 raptor nesting season, raptor nest clearance surveys would take place, if required, in consultation with BLM. Previously disturbed areas would be used to the extent possible for material and equipment staging. Construction staging sites would be located at an area to be determined within the Iron Springs Solar Project area on privately-owned land, and within the areas identified as stringing sites within the gen-tie ROW. It is not

anticipated that additional, dedicated staging areas would be required along the ROW. The maximum number of construction personnel anticipated to be on-site for the construction of the generation tie-line is expected to be approximately 20.

Table 2.1 provides the estimated disturbance associated with construction and operation of the gen-tie line. The temporary disturbance associated with construction of the gen-tie line is provided for each of the Project components, including poles, stringing sites, and access roads. The total temporary disturbance of the poles, stringing sites, and access roads within the BLM ROW would be 11.52 acres. Areas of temporary disturbance would be reclaimed and revegetated following the construction period. Stabilization and Rehabilitation is described within the Final POD (Appendix B).

Table 2.1 also includes the permanent disturbance that would remain for the life of the Project. Permanent disturbance would be associated with the poles and access roads. The total permanent disturbance of the poles and access roads within the BLM ROW would be 3.94 acres. Areas of permanent disturbance would be reclaimed at the end of the life of the Project in accordance with the Reclamation Plan (see Appendix B).

Table 2.1. Summary of Estimated Disturbance

Project Component	BLM	Private	Total
ROW (miles)	2.14	3.62	5.76
ROW (acres)	25.84	43.88	69.82
Number of poles	36	60	96
Temporary disturbance of poles (acres)	4.13	6.90	11.03
Permanent disturbance of poles (acres)	0.83	1.40	2.23
Number of stringing sites	1	5	6
Temporary disturbance of stringing sites within ROW (acres)	0	1.84	1.84
Temporary disturbance of stringing sites outside ROW (acres)	0.92	2.76	3.68
New access roads to be constructed (miles)	2.14	2.87	5.01
Temporary disturbance of access roads (acres)	6.47	8.70	15.17
Permanent disturbance of access roads (acres)	3.11	4.17	7.28
Existing roads to use for access (miles)	0	0.75	0.75
TOTAL TEMPORARY DISTURBANCE (ACRES)	11.52	20.20	31.72
TOTAL PERMANENT DISTURBANCE (ACRES)	3.94	5.57	9.51

NO ACTION ALTERNATIVE

Under the No Action Alternative, the requested ROW would not be granted, and a gen-tie line for the Iron Springs Solar Project would be constructed solely on privately-owned land. The section of the gen-tie line proposed on public land would likely be placed within private lands to the east of public land. The Proposed Action is the shortest distance between the solar array and the Three Peaks Substation; any alternatives to be constructed on privately-owned land would be at least 0.5 miles longer than the Proposed Action.

ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM FURTHER ANALYSIS

An alternative was considered that would require SunEdison to use an existing ROW road granted to Rocky Mountain Power to access the proposed powerline. Rocky Mountain desires that SunEdison construct a new route with SunEdison's ROW due to safety concerns during construction of the proposed powerline.

CHAPTER 3

AFFECTED ENVIRONMENT

INTRODUCTION

This chapter presents the potentially affected existing environment (e.g., the physical, biological, social, and economic values and resources) of the Project area. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4.

The affected environment was considered and analyzed by an interdisciplinary team as documented in the Interdisciplinary Team Checklist (Appendix A). The checklist indicates which resources of concern are either not present in the Project area or would not be impacted to a degree that requires detailed analysis. Resources which could be impacted to a level requiring further analysis are described in Chapter 3 and impacts on these resources are analyzed in Chapter 4.

GENERAL SETTING

The Project area lies within the Cedar Valley Region of Iron County. The Cedar Valley is a 25-mile (40 kilometer) long valley located in southeastern Iron County, against the Hurricane Cliffs which border the Cedar Mountains and the Markagunt Plateau. Cedar Valley borders the southeast of the Escalante Desert, at its north and northwest. The Cedar Valley climate consists of dry, mild to hot winters and dry, hot summers. Annual precipitation is sparse and averages from 2 to 10 inches per year.

The Project area is at an elevation of approximately 5,500 feet (ft) above mean sea level, with slopes ranging from flat to 15 percent slope. There are no major landforms on the site. Soil types within the Project area are developed from alluvium derived from igneous and sedimentary rocks. The soils are categorized as loam, ranging from a moderately fine textured soil (silty clay loam) to a coarse textured soil (gravelly sandy loam) (Tetra Tech 2014).

The primary vegetation communities in the Project region include shrub species such as basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*), rubber rabbitbrush (*Ericameria nauseosa*), Nevada jointfir (*Ephedra nevadensis*), and green rabbitbrush (*Chrysothamnus viscidiflorus*). Common herbaceous species within and around the Project area include western wheatgrass (*Pascopyrum smithii*), Indian ricegrass (*Achnatherum hymenoides*), and crested wheatgrass (*Agropyron cristatum*). Utah Juniper (*Juniperus osteosperma*) and two needle pinon (*Pinus edulis*) trees are scattered throughout the Project area.

RESOURCES BROUGHT FORWARD FOR ANALYSIS

Fish and Wildlife

Initial Project coordination with the BLM identified the need to conduct baseline biological surveys. Specifically, the BLM requested surveys for Utah prairie dog (*Cynomys parvidens*) and migratory birds, with a focus on nesting raptors and burrowing owls (*Athene cunicularia*). Baseline biological surveys of the Project area were conducted by qualified biologists from March 31 to April 2, 2015. Details regarding fish and wildlife and results of the Project baseline surveys are documented in Appendix C (Tetra Tech 2015).

No riparian, wetland, or other aquatic habitat occur in the Project area; therefore, no fish or other aquatic species would occur. Mines and rocky areas in the Three Peaks area may provide roosting habitat for bats; but due to a lack of water at the Project area, it is unlikely that bats would be attracted to forage within the Project area.

Based on Utah Division of Wildlife Resources (UDWR) range maps, there is no crucial pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*) or other big game range delineated in the Project area (UDWR 2014a, UDWR 2014b).

Raptors

Raptor nesting within one-mile of the Project area is limited by the availability of nesting substrates. There are no cliffs or rock outcrops to support nests. Trees that could support raptor nests are limited to the pinyon-juniper zone, with other scattered deciduous trees associated with the lowland agricultural areas. Existing utility poles may also be used for nesting. A baseline raptor nest survey was conducted from March 31 to April 2, 2015. A second raptor nest survey was conducted May 6 to May 7, 2015. No recent raptor nests were documented within one mile of the Project area with the exception of burrowing owls (*Athene cunicularia*; see discussion under Special Status Animal Species, Including Threatened, Endangered, and Candidate Species).

Given the availability of prairie dogs (on private land), jackrabbits, ground squirrels, and other small mammals for prey, a variety of raptors may hunt in the Project area. Swainson's hawk (*Buteo swainsoni*) and red-tailed hawk (*Buteo jamaicensis*) were observed within one mile of the Project area during the 2015 baseline surveys. Golden eagles (*Aquila chrysaetos*) are known to nest in the Three Peaks area to the west of the Project, and likely would hunt within the Project area. Other raptors that may hunt in the Project area include American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), and possibly various owls. The Utah Natural Heritage Program (UNHP) had records of occurrence for bald eagle (*Haliaeetus leucocephalus*) within one-half mile of the Project area. Bald eagles may use the Project area during the winter and spring seasons, when they are known to forage on carrion (USFWS 2007). Rough-legged hawk (*Buteo lagopus*) may also use the Project area in winter.

Migratory Birds

Other migratory birds observed in the Project area during the 2015 baseline surveys included: common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), white-crowned sparrow (*Zonotrichia leucophrys*), Bullock's oriole (*Icterus bullockii*), western kingbird (*Tyrannus verticalis*), Stellar's jay (*Cyanocitta stelleri*), mountain bluebird (*Sialia currucoides*), Brewer's blackbird (*Euphagus cyanocephalus*), barn swallow (*Hirundo rustica*), and turkey vulture (*Cathartes aura*).

Special Status Animal Species, Including Threatened, Endangered, and Candidate Species

Management status, habitat requirements, and probability of occurrence for all special status species with the potential to occur in the Project area are included in Table 3.1.

Table 3.1. Special Status Species with Potential to Occur in the Project Area

Species	Status*	Habitat and Range	Probability of Occurrence
Birds			
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	SS	Winters throughout Utah. Large winter congregations are typically associated with open water; however some individuals may use upland habitats where carrion is available. (UDWR 2015a)	May occur. UNHP has occurrence records within 0.5 mile of the Project (UNHP 2015). Individuals may scavenge in the Project area in winter/ early spring.
Burrowing Owl (<i>Athene cunicularia</i>)	SS	Occurs statewide in Utah in scattered localities. May occur in a variety of grasslands and shrubland habitats, but typically nests in sparsely vegetated areas of sagebrush steppe and desert scrub communities. Often found in burrows dug by rodents. (Bosworth 2003, Parrish et al. 2002)	May occur. Suitable habitat identified in Project area. A pair was observed within 0.5 mile of the Project area on private land during the 2015 baseline surveys.
Ferruginous Hawk (<i>Buteo regalis</i>)	SS	Occurs throughout Utah in flat or rolling terrain with suitable habitat, including sagebrush shrublands, salt desert scrub, and grasslands, and the ecotone between pinyon-juniper and sagebrush. (Parrish et al. 2002)	May occur. Suitable nesting and foraging habitat is present, and the species has historically nested near the Project area.
Long-billed Curlew (<i>Numenius americanus</i>)	SS	In Utah, occurs primarily in northern and western portions of the state. Fields mixed with short grass and areas of bare ground. (Bosworth 2003, Parrish et al. 2002)	Known to occur. A pair was observed in the Project area on private land during 2015 baseline surveys, possibly nesting.
California Condor (<i>Gymnogyps californianus</i>)	ESA-E	Known distribution is within the Project area, but no known use areas exist within the Project area.	May occur. Occurrence would be rare within the Project area and would be closely associated with feeding on carrion.
Mammals			
Utah Prairie Dog (<i>Cynomys parvidens</i>)	ESA-T	Endemic to southwestern Utah. Suitable habitat includes areas of well-drained soils within semi-desert shrub-steppe and grassland communities.(USFWS 2012)	May occur. Prairie dogs were documented within 0.5 mile of the Project ROW on private land during 2015 baseline surveys.

* ESA-E = Endangered Species Act, Endangered; ESA-T = Endangered Species Act, Threatened; SS = Utah BLM Sensitive Species (BLM 2010)

Of the nine threatened, endangered, or candidate species listed under the Endangered Species Act (ESA) for Iron County, only the Utah prairie dog was brought forward for further analysis.

On April 1, 2015, a low-intensity level survey for Utah prairie dog was conducted, following the 2014 U.S. Fish and Wildlife Service (USFWS) protocol (USFWS 2014), within the Project area and a 1,100-foot buffer (Utah prairie dog survey area). Suitable habitat in the Utah prairie dog survey area was also mapped during the baseline survey, and consisted of patches of pasture/grassland in the southern portion of the Project. Within the Utah prairie dog survey area, approximately 60.7 acres were documented as suitable Utah prairie dog habitat. Of this,

approximately 0.24 acre of suitable Utah prairie dog habitat occurs within the 100-foot ROW, which is less than one-half percent of the total ROW area. All suitable habitat in the ROW and the 1,100-foot buffer is located exclusively on private land. No Utah prairie dog colonies were found within the Utah prairie dog survey area. One Utah prairie dog colony was found on private land within 0.5 miles of the ROW. A pair of burrowing owls was observed within the Utah prairie dog colony located on private land. Survey details are provided in Appendix C.

Of the BLM sensitive species (BLM 2010) that may occur in Iron County, six have potential to occur in the Project area. Of these species, only the long-billed curlew (*Numenius americanus*) was observed in the Project area during 2015 baseline surveys.

Livestock Grazing

The Proposed Action would cross the Jensen Allotment. This allotment is comprised of 3,081 acres of BLM-administered land and 150 acres of privately-owned land. The Jensen Allotment has 550 sheep authorized from 01/01-02/28. The allotment consists of one pasture and the sheep are rotated throughout the allotment by watering locations and an active sheep herder.

Rangeland Health Standards

Rangeland Health Assessments were completed within the Jensen Allotment at the time of the respective grazing permit renewals and again in 2012. Currently, Rangeland Health Standard 1 (upland soils) and Standard 3 (native species/T&E) are failing to be met within the Jensen Allotment. Pinyon pine and juniper encroachment was noted as either a contributing factor to not meeting standards or was a concern in the near future within the allotments.

Vegetation

The Project is located in the Sagebrush Basins and Slopes sub-region of the Great Basin Ecoregion (Woods et al. 2001). Historically, vegetation in the region was dominated by great basin sagebrush/Wyoming big sagebrush and perennial bunchgrasses; however, grazing pressure and fire have reduced the native grasses (Woods et al. 2001).

Much of the lower elevations in the southern portion of the Project area have been altered from their natural communities to active and abandoned pastureland or other agricultural uses. These lower elevation areas consist of a mix of agriculture, invasive annual and perennial grassland, invasive annual and biennial forbland, semi-desert grassland, greasewood flats, and mixed salt desert scrub. In the northern portions of the Project area where elevations are above 5,500 feet, vegetation communities transition to a matrix of pinyon-juniper and Wyoming big and black sagebrush. Table 3.2 includes the vegetation communities within the Project area (private and BLM-administered lands).

Table 3.2. Vegetation Communities within the Project Area

Vegetation Community	BLM (acres)	Private (acres)	Total (acres)
Big sagebrush shrubland	15.8	20.0	35.8
Pinyon-juniper woodland	10.2	9.4	19.6
Native and non-native grassland	0	7.6	7.6

Agriculture	0	3.6	3.6
Greasewood flat	0	2.7	2.7
Other	0	0.5	0.5
TOTAL	26.0	43.8	69.8

Source: USGS 2004

Socioeconomics

The 2013 population of Iron County was 46,780, and the 2013 median household income was \$44,439 (State of Utah 2015). The unemployment rate in 2013 was 5.4% and the largest nonfarm employment industries were government; followed by trade, transportation, and utilities (State of Utah 2015). The gross taxable sales in 2013 was \$643 million (State of Utah 2015).

The Project is located in a rural area within unincorporated Iron County consisting of agricultural rangeland and cropland with sparse residential development to the east of the gen-tie route. The nearest residence to the gen-tie route is approximately 0.1 miles to the east.

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CHAPTER 4

ENVIRONMENTAL IMPACTS

INTRODUCTION

This chapter provides analysis of those resources that would be potentially impacted by the Proposed Action and No Action Alternatives. The impacts section for the Proposed Action assumes that all Best Management Practices described in the Design Features to Reduce Impacts section of Chapter 2 would be implemented with Project design and construction.

DIRECT AND INDIRECT IMPACTS

In this analysis, short-term impacts are those effects that would occur over a period of one year or less (i.e., during construction of the gen-tie line). Long-term impacts are those effects that would occur over a greater than one-year period (i.e., after construction is complete).

PROPOSED ACTION

This section analyzes the impacts of the Proposed Action alternative to those potentially impacting resources described in the affected environment (Chapter 3).

Fish and Wildlife

The Proposed Action would result in 11.52 acres of short-term disturbance to the habitat types that may support common wildlife species found in the BLM ROW. These wildlife species may be temporarily displaced during construction, but this effect would be minimal as the types of general habitat found in the Project area are found elsewhere throughout the Project vicinity. Wildlife would be able to disperse into the adjacent areas and return once construction is complete. Small, less mobile species may be killed or injured during construction, but the loss is expected to be discountable. A total of 3.94 acres of habitat would be lost with the permanent footprint of poles and the access road within the BLM ROW. This amount of habitat loss is minor and would have a discountable effect on common wildlife species. The Proposed Action would not result in impacts to big game species such as pronghorn and mule deer, as crucial range habitat for these species is not documented to occur in the Project area.

Raptors

Nesting substrates for raptors are limited in the Project area, occurring as trees primarily in the northeast portion of the Project area on private and BLM land. Juniper removal would be localized to the ROW and is not expected to result in a measurable loss of nesting substrates for raptors. Effects of the Proposed Action on raptors would be discountable.

Migratory Birds

Individuals may avoid nesting and foraging in the Project area during construction, but the effect would be short-term and minor because similar habitat is provided in the Project vicinity and birds are able to disperse into these adjacent areas. The Proposed Action may result in discountable impacts to migratory birds as human presence in the short-term, and a small reduction in habitat in the long-term.

Special Status Animal Species

One special status animal species was identified in the Project area on private land during baseline surveys - the long-billed curlew. Impacts to nesting individuals of this species would be avoided, as construction activities would not occur during the nesting season for this species. Other special status species including Utah prairie dog and burrowing owl were considered as having the potential to occur, but were not found in the Project area or associated wildlife survey buffer of 1,100 feet during baseline surveys. Utah prairie dog and burrowing owl were found within 0.5 mile of the Project ROW on private land. Approximately 0.24 acre of suitable Utah prairie dog habitat was found within the 100-foot ROW; about 0.2 acre would be permanently impacted by permanent facilities (poles and access road). Construction may cause a short-term effect of avoidance in the Project area, but the Proposed Action would not result in long-term effects to special status animal species.

The BLM assumes the addition of a 138kV transmission line would not increase raptor predation to the Utah prairie dog because of the existing features in the project area, and therefore, do not anticipate any new direct impacts. The amount of suitable habitat permanently impacted by placement of two power poles would be about 0.02 acres. It is anticipated that the Project may affect, but is not likely to adversely affect Utah prairie dog. The USFWS concurred with this finding by letter dated July 14, 2015.

Livestock Grazing

The Proposed Action would result in the short-term disturbance of 11.52 acres and the long-term loss of 3.94 acres of rangeland within the BLM ROW. During construction, minor disturbance to livestock grazing would be anticipated. Livestock grazing would be impacted by the need to rest the reseeded project area for a minimum of two complete growing seasons or until the seedlings became established and set seed. Following construction of the Project and reseeding of the ROW, long-term impacts would be beneficial to livestock due to the increased vegetation diversity, and increased forage production.

Rangeland Health Standards

The Proposed Action would result in the long-term removal of 3.94 acres of vegetation from the BLM ROW. The removal of pinyon-juniper and reseeding within the ROW following construction of the Project would be expected to improve rangeland health in the long term, as vegetation treatments would provide increased forage production on grazing allotments.

Vegetation

The Proposed Action would result in the short-term disturbance of 11.52 acres and the long-term loss of 3.94 acres of vegetation within the BLM ROW. Following construction, the Project would be reseeded using the seed mix included in Appendix B. The implementation of the Proposed Action would improve and enhance the vegetation within the ROW. The disturbed areas within the ROW would be seeded following construction and pinyon and junipers would be removed to open up the understory vegetation, increasing diversity and allowing grasses, forbs and shrubs to thrive.

Socioeconomics

Construction of the Project would provide temporary economic benefit to Iron County and Cedar City through revenue to local hotels and restaurants from construction employees. Additionally, goods, services, and food for construction crews would be obtained from local businesses. Operation of the Project would provide tax revenue to Iron County.

The Project is located in a rural area with sparse residential development to the east of the gen-tie route. Construction of the Project would result in temporary impacts to the nearby residents via increased traffic and noise during the construction period. As the gen-tie would be built adjacent to an existing high-voltage transmission line the permanent visual impacts to nearby residents are anticipated to be minimal.

NO ACTION

Under the No Action Alternative, the requested ROW would not be granted, and a gen-tie line for the Iron Springs Solar Project would be constructed on privately-owned lands within unincorporated Iron County.

Under the No Action Alternative, impacts to all resources would be similar to those contained in the Proposed Action. Impacts would likely be greater, as the gen-tie line would be longer in length to avoid public land. Impacts to vegetation, including special status species habitat would still occur, but likely to a greater extent. The potential for effects associated with construction of a gen-tie line across private lands may require baseline documentation or analysis as part of Iron County land use permitting requirements. Resource protection measures identified in the Proposed Action to minimize effects may or may not be implemented, however the Iron County land use permitting process may specify resource protection measures.

CUMULATIVE IMPACTS

Cumulative impacts are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions.

Cumulative impacts pursuant to the NEPA are impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions, regardless of what agency or person undertakes such other actions. The Cumulative Effects Area (CEA) for this Project was defined for each potentially affected resource:

- Fish and Wildlife
 - Raptors: Three miles from the BLM ROW
 - Migratory birds: One mile from the BLM ROW
 - Utah prairie dog: Utah prairie dog Management Unit
- Invasive species/rangeland health standards/vegetation/livestock grazing: Grazing allotment(s) impacted
- Socioeconomics: Iron County

The CEA contains the GTPSRMA, but does not include any Areas of Critical Environmental Concern or lands with wilderness characteristics. Lands within the CEA for all categories except socioeconomics are administered by the BLM and Iron County. Lands within the CEA for socioeconomics (i.e., Iron County) are administered by the BLM, Iron County, Cedar City, the U.S. Forest Service (USFS), the National Park Service (NPS), the Paiute Tribe of Utah (PITU), and the State of Utah School and Institutional Trust Lands Administration (SITLA).

Past and Present Actions

Current and historical uses of lands within the CEA includes residential use, agriculture and ranching, electrical transmission, outdoor recreation, rural residential uses, industry, transportation, and mining.

Transportation routes within the CEA include Interstate (I)-15, State Route (SR)-56, SR-130, SR-14, SR-148, SR-143, county and city streets, private farm roads, OHV and snowmobile trails, and pedestrian/equestrian trails.

Past and present use of the private, state, and public lands in the CEA is primarily agricultural production, ranching, cattle and sheep grazing, and recreation.

The successional transition of grassland to shrubland and shrubland to pinyon-juniper continues to be of concern. The BLM has spent considerable time and effort on vegetation treatments within the CEA to remove the pinyon and juniper overstory in order to reduce fuel loading and provide ecological diversity for grazing animals and other uses of the public lands. Fences, wells, and stock ponds associated with livestock operations are scattered throughout each grazing allotment. Most agricultural fields are sprinkler irrigated on center pivots.

Renewable energy production opportunities from wind, solar, and geothermal resources are being explored within the CEA. Several renewable energy projects have been constructed or are planning to be constructed within Iron County.

I-15 is within a designated utility corridor. Existing utilities within the I-15 corridor include a natural gas mainline, fiber optic lines, overhead electric transmission lines, radio and television towers, and cellular telephone towers.

Reasonably Foreseeable Action Scenario

The following reasonably foreseeable action scenario identifies the actions that would cumulatively affect the same resources in the CEA as the Proposed Action and No Action Alternative.

The BLM-administered land in the CEA is managed by the CCFO as the GTPSRMA. The GTPSRMA will continue to be managed for recreational use. Use of BLM-administered lands for recreation would be expected to continue at current levels.

The ROW would cross the Jenson Allotment for livestock grazing. The BLM would continue to manage the Jenson Allotment to attain the Rangeland Health Standards.

The gen-tie line is within the Horse Hollow Vegetation Enhancement Project area. The primary purpose of this vegetation enhancement project is to reduce hazardous fuels and risk to life and property from catastrophic wildland fire.

The CCFO has no other projects planned in the CEA within the foreseeable future. Any future projects involving Federal lands or funding that may develop in the CEA would be subject to NEPA and the full array of Federal laws addressing environmental protection. As required by law, resources would be protected or appropriately mitigated.

Other current uses of BLM-administered lands would be expected to continue at current levels.

Development of residential and commercial property on private land in the CEA under the jurisdiction of Iron County and Cedar City will continue.

The Iron Springs Solar Project would be an 80 MW solar PV electricity generating facility located on approximately 883 acres of land within unincorporated Iron County (see Figure 1). The Iron Springs Solar Project would consist of PV solar arrays, an approximately 0.5-acre Project substation, and ancillary equipment. The total permanent disturbance would be 635.5 acres.

Cumulative Impacts

Past uses of the CEA have resulted mostly from recreational use in the GTPSRMA, livestock grazing and private land development. The Proposed Action is not anticipated to impact recreation use and would likely improve the vegetation community by reducing pinyon and juniper encroachment. Impacts to vegetation and sensitive species would likely continue on private land regardless of federal approval of the ROW, although they would be subject to private land authorities.

The result of short-term disturbance of 11.52 acres and the long-term loss of 3.92 acres within the BLM ROW, when added to past, present, and/or reasonably foreseeable actions is expected to result in short term and negligible to minor cumulative impacts.

The result of short-term disturbance of 894.52 acres and the long-term loss of 639.42 acres in the CEA, when added to past, present, and/or reasonably foreseeable actions is expected to result in discountable cumulative impacts. A survey for Utah prairie dog was conducted by UDWR for this facility in April 2014. No Utah prairie dogs or sign of their presence were found during the survey. A brief look at the area by the USFWS in April 2015 did not indicate any change in this finding from 2014.

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CHAPTER 5

PERSONS, GROUPS, AND AGENCIES CONSULTED

During preparation of the EA, the public was notified of the Proposed Action by posting on the Utah ENBB on March 18, 2015. A public comment period was offered between May 22 and June 5, 2015. No comments have been received.

Table 5.1. List of Persons, Agencies and Organizations Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Utah State Historic Preservation Office (SHPO)	Consultation for undertakings, as required by the National Historic Preservation Act (NHPA) (16 USC 470)	No cultural resources would be affected. The project will be reviewed by SHPO as part of the quarterly submittal as per existing protocol.
Paiute Indian Tribe of Utah	Consultation as required by the American Indian Religious Freedom Act of 1978 (42 USC 1531) and NHPA (16 USC 1531)	On March 18, 2015, the Paiute Indian Tribe of Utah have reviewed the project and have no objections to the project moving forward. They would like to be informed of any changes or updates to the project.
United States Fish and Wildlife Service	Informal Consultation completed as required by the Endangered Species Act.	Informal consultation has been completed with USFWS. A concurrence letter was received dated July 14, 2015.

LIST OF PREPARERS

BLM staff specialists who determined the affected resources for this document are listed in Appendix A. Those who contributed further analysis in the body of this EA are listed in Table 5.2.

Table 5.2. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
BLM Preparers		
Michelle Campeau	Realty Specialist	Project Lead
Sheri Whitfield	Wildlife Biologist	Fish and Wildlife
Gina Ginouves	NEPA and Planning Specialist	Document Review
Jeff Reese	Rangeland Management Specialist	Livestock Grazing/Rangeland Health and Vegetation
Non-BLM Preparers		
Sarah McCall	Project Manager/Environmental Specialist	Project Management, document preparation
Michele Weidner	Environmental Specialist/Biologist	Wildlife, document preparation

Name	Title	Responsible for the Following Section(s) of this Document
Wendy Rieth	Environmental Specialist/GIS specialist	Wildlife, GIS data analysis
Matthew Smith	GIS Specialist	GIS data analysis, map making
Tricia Bernhardt	Environmental Specialist	Quality Analysis/Quality Control

CHAPTER 6

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FIGURES

Figure 1. Project Area

**Iron Springs
Solar Project**
Iron County, UT

Project Area

Legend

-  Iron Springs Gentle Route
 Requested Right-of-Way on BLM Land
 Iron Springs Solar Project Area
 Municipal Boundary
 Railroad

Existing Utilities

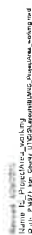
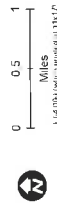
- Existing Substation
138kV Transmission Line
230kV Transmission Line
345kV Transmission Line

Hydrology

- Perennial Lake
Intermittent Lake
Perennial Stream
Intermittent Stream
Canal/Ditch

Jurisdiction

- Bureau of Land Management
Three Peaks Special Recreation
Management Area
Iron County Shooting Range
State of Utah



APPENDICES

Appendix A. Interdisciplinary Team Checklist

AirINTERDISCIPLINARY TEAM NEPA EA REVIEW CHECKLIST

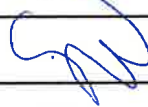




Project Title: IRON SPRING SOLAR GEN-TIE LINE

NEPA Log Number: DOI-BLM-UT-C010-2015-0039-EA

File/Serial Number: UTU-91095

Project Leader: Michelle Campeau (435) 865-3047

STAFF REVIEW OF RESOURCES AND ISSUES CONSIDERED:

RESOURCE	SPECIALIST	DRAFT EA REVIEW INITIAL/DATE	FINAL DOCUMENTATION REVIEW INITIAL/DATE
Air Quality			NI
Areas of Critical Environmental Concern			NP
Cultural Resources			NI
Greenhouse Gas Emissions			NI
Environmental Justice			NI
Farmlands (Prime or Unique)			NP
Fish and Wildlife	Sheri Whitfield	05/06/15	
Floodplains			NP
Fuels/Fire Management			NI
Geology / Mineral Resources/Energy Production			NI
Hydrologic Conditions			NI
Invasive Species/Noxious Weeds	J. Bulloch	5/7/2015	
Lands/Access			NI
Livestock Grazing	J.Reese	5/12/2015	
Migratory Birds.	Sheri Whitfield	05/06/15	
Native American Religious Concerns			NI
Paleontology			NI
Rangeland Health Standards	J.Reese	5/12/2015	

RESOURCE	SPECIALIST	DRAFT EA REVIEW INITIAL/DATE	FINAL DOCUMENTATION REVIEW INITIAL/DATE
Recreation			NI
Socio-Economics	M. Campeau	05/18/2015	MC
Soils			NI
Special Status Plant Species			NI
Special Status Animal Species	Sheri Whitfield	05/06/15	7/16/2015: Informal consultation concurrence from USFWS.
Wastes (hazardous or solid)			NI
Water Resources/Quality (drinking/surface/ground)			NI
Wetlands/Riparian Zones			NP
Wild and Scenic Rivers			NP
Wilderness/WSA			NP
Woodland / Forestry			NI
Vegetation	J.Reese	5/12/2015	JR
Visual Resources			NI
Wild Horses and Burros			NP
Lands with Wilderness Characteristics			NP

FINAL REVIEW:

REVIEWER TITLE AND NAME	DRAFT REVIEW INITIAL/DATE	FINAL REVIEW INITIAL/DATE
Environmental Coordinator:		Michael Harris 7/16/15
Authorized Officer:		Elizabeth Burghard 7/23/15

INTERDISCIPLINARY TEAM NEPA CHECKLIST

Project Title: IRON SPRING SOLAR GEN-TIE LINE

NEPA Log Number: DOI-BLM-UT-C010-2015-0039-EA

File/Serial Number: UTU-91095

Project Leader: Michelle Campeau (435) 865-3047

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)










NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required













PI = present with potential for relevant impact that need to be analyzed in detail in the EA

The rationale column should include NI and NP discussions.

RESOURCES AND ISSUES CONSIDERED:

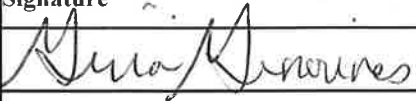
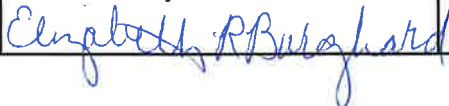
Determi-nation	Resource	Rationale for Determination	Signature	Date
NI	Air Quality	Area is currently meeting NAAQS. Nothing in the proposal would alter air quality in the long term.	J. Reese 	3/16/2015
NP	Areas of Critical Environmental Concern	The CCFO does not have any designated ACECs	Dave Jacobson 	3-12-2015
NI	Cultural Resources	A Class III survey was conducted on BLM lands in March 2015. No historic properties were located on BLM lands.	Jamie Palmer 	3/18/2015
NI	Greenhouse Gas Emissions	There would be emissions of GHG's associated with exhaust of heavy equipment, pickup trucks, etc. associated with project implementation. However, these emissions would be minimal, even on a local scale.	J. Reese 	3/16/2015
NI	Environmental Justice	No minority or economically disadvantaged groups would be unduly affected by the proposed action.	M. Campeau 	03/16/15
NP	Farmlands (Prime or Unique)	There may be soils in the project area with potential for prime, unique or important farmlands, but because no irrigation water is supplied to any of the lands proposed for treatment, there are not P, U, or I farmlands.	J. Reese 	3/16/2015
PI	Fish and Wildlife	A variety of known raptors nest in the project area. Surveys would be required to identify nest locations. If construction occurs during the raptor nesting season – temporal and spatial buffers would be applied to avoid impacts to nesting raptors.	S. Whitfield 	03/11/15
NP	Floodplains	No flood plains are located in the project area.	J. Reese 	3/16/2015
NI	Fuels/Fire Management	This project will have no impact to fire and fuels, especially given the stabilization and mitigation plan included with the project description. Please work with the fire and fuels staff when this area is rehabilitated to re-vegetate with fire-tolerant native and non-native species. Also, will ongoing maintenance of the ROW be required as part of the Project? Proper vegetation and maintenance of the ROW may provide opportunities to act as a "fuel break" should a fire ever occur in or near the project area.	V. Tyler 	03/11/15

NI	Geology / Mineral Resources/Energy Production	There are no known mineral resources present within the proposed project lands other than surficial deposits of common variety sand and gravel. The lands underlying the project are prospectively valuable for oil and gas resources but are not under lease. There are no leases, claims or permits currently in effect on the proposed project area for any mineral resources. Any mineral resource that may be present beneath the project lands would not be substantially affected by the proposed action.	E. Ginouves <i>EG</i>	3/10/15
NI	Hydrologic Conditions	Hydrologic conditions are good across the project area. With seeding following the implementation of the project area, hydrologic conditions would be expected to improve.	J. Reese <i>JR</i>	3/16/2015
PI	Invasive Species/Noxious Weeds	The holder of the ROW shall be responsible for monitoring and controlling noxious weeds within the limits of the ROW. The holder shall employ weed control methods approved in writing by the BLM. A weed survey is recommended to be completed by the company. It is recommended that any of the 38 weeds that have been designated state noxious or others listed by the county are found prior to or during construction, they should be avoided and/or treated prior to disturbance to the extent practical. Depending upon time of construction, it may not be feasible to pre-treat the site or to avoid mature / dormant weeds and weed seeds, thus creating conditions for establishment of new populations. POD states ROW holder would be responsible for control of weeds in the ROW. Chemical treatment of these areas will need to be completed during the first growing season after the project is completed to ensure that weed populations are controlled. The areas to be treated on public land will need to be treated with herbicides approved by BLM and according to Bureau policy. If stipulations are adhered it can change from a PI to an NI.	J. bulloch <i>JB</i>	3/12/15
NI	Lands/Access	Proposed 138kV line would not impact other existing uses in the project area. Line would parallel an existing 230 kV line. If line is approved the applicant would have a permanent access route through the project location for maintenance purposes. NI as long as all right-of-way, lease, or permit holder's valid and existing rights are honored. No access issues have been identified or are anticipated.	M. Campeau <i>MC</i>	03/16/15
PI	Livestock Grazing	The proposed action would go across the Jensen Allotment. It would be expected that seeding following the implementation of the project would be beneficial to livestock in the long term with minor disturbance in the short term.	J. Reese <i>JR</i>	3/16/2015
PI	Migratory Birds	To avoid impacts to nesting birds construction activities should occur outside the migratory bird nesting season April 1 – June 30. Updated: Construction is anticipated to begin November 2015 through June 2016. If construction occurs inside the nesting season NEPA document should include mitigation measures.	S. Whitfield <i>SW</i>	03/11/15 Updated 03/23/15
NI	Native American Religious Concerns	The Paiute Indian Tribe of Utah have reviewed the project and have no objections to the project moving forward. They would like to be informed of any changes or updates to the project.	Jamie Palmer <i>JP</i>	3/18/2015

NI	Paleontology	The surficial geology of the proposed action is Quaternary alluvium. Using the Bureau's Potential Fossil yield classification system, the surficial formation would be ranked as Class 2, Low Potential for vertebrate fossils or scientifically significant invertebrate fossils. No assessment or mitigation measures specific to fossil resources are warranted.	E. Ginouves 	3/10/15
PI	Rangeland Health Standards	Currently, the Standards and Guides are failing to be met within the project area due to excessive pinyon-juniper encroachment. The removal of pinyon-juniper and seeding following the implementation of the project would be expected to improve rangeland health.	J. Reese 	3/16/2015
NI	Recreation	The proposed action does cut through the eastern side of the Greater Three Peaks Special Recreation Management Area that was designated in 2005. The eastern side of the SRMA is not used for any specific recreation use and there are no plans to provide recreation opportunities in this portion of the SRMA. This power line will be adjacent to the existing power line.	Dave Jacobson 	3-12-2015
PI	Socio-Economics	The NEPA document should discuss the impacts that the project may have on job opportunities, property taxes, and local economic growth.	M. Campan 	03/16/15
NI	Soils	See Hydrologic	J. Reese 	3/16/2015
NI	Special Status Plant Species	Franklin's Penstemon is known to occur to the north of the project area. Surveys were completed by Dr. Tait and no Franklin's Penstemon species were found in the project area. With no species being observed in the project area it is expected that there would be no impact on the species.	J. Reese 	3/16/2015
PI	Special Status Animal Species	Utah prairie dog habitat is within 1 mile of the project area. High intensity level protocol surveys would be required prior to project activities. Surveys for Utah prairie dogs are performed during the active season (April 1 – September 30). Update: Low intensity level protocol survey. Use 1,100 foot buffer when conducting surveys.	S. Whitfield 	03/11/15 Updated 03/24/15
NI	Wastes (hazardous or solid)	There are no known waste issues currently associated with the proposed project area. Use of construction equipment introduces a threat only if an unforeseen incident or malfunction occurs with the equipment. However, this threat is unlikely due to the probability and minimal quantities of product utilized. As identified in the application, state and federal regulation governs the use, storage and disposal of any wastes. In addition, should an unforeseen incident occur, reporting and mitigation is required.	R. Peterson 	3/11/15
NI	Water Resources/Quality (drinking/surface/ground)	There are currently no known waste issues in the project area. The proposal is not anticipated to impact the area with any wastes. The use of equipment could potentially create a release of fluids should a mechanical failure occur, but is unlikely. Should an incident occur, all state and federal regulations will govern reporting and corrective actions.	J. Reese 	3/16/2015
NP	Wetlands/Riparian Zones	There are no Wetland/Riparian Zones associated with this project.	A. Stephens 	3/17/15
NP	Wild and Scenic Rivers	There are no Wild and Scenic Rivers within the project area.	Dave Jacobson 	3-12-2015
NP	Wilderness/WSA	There are no wilderness study area or wilderness within or near the proposed project.	Dave Jacobson 	3-12-2015

NI	Woodland / Forestry	<p>The gen-tie line is within the authorized Horse Hollow Vegetation Enhancement Project area. The primary purpose of this vegetation enhancement project is to reduce hazardous fuels and risk to life and property from catastrophic wildland fire.</p> <p>Construction of the gen-tie line would remove 2.4 acres of vegetation (Pinyon/Juniper/Shrubs) from the ROW. After construction, the temporary construction areas would be re-vegetated with grasses and forbs, leaving a permanent impact of 7.0 acres from the permanent Project features, including access road and pole locations.</p> <p>Update: Removal of vegetative resources would be minimal for this proposed project. However, in accordance with 43 Code of Federal Regulation (CFR) 2805.15(c) and 5462.2(b)(1) a permit would be required for the removal and disposal of vegetative resources on Bureau of Land Management (BLM) managed lands. BLM would issue a <i>Contract for the Sale of Vegetation Resources</i> or a <i>Free Use Application and Permit for Vegetative Material</i>, as deemed necessary by the Authorized Officer. In addition Applicant would be required to follow attached project design features (PDFs).</p>	C. Peterson CP	03/23/15 Updated: 03/26/15
PI	Vegetation	Currently, the vegetative community is dominated by pinyon and juniper. Understory vegetation particularly perennial grasses are limited throughout the proposed project area. It would be expected the rehabilitation efforts including seeding would provide for a diverse composition and production of perennial grasses, forbs and shrubs. An appropriate seed mix would be identified by the ID Team.	J. Reese JR	3/16/2015
NI	Visual Resources	The proposed project is within VRM class IV and will meet the objectives of that class when completed	Dave Jacobson DJ	3-12-2015 Updated 03/23/15
NP	Wild Horses and Burros	Proposed project is not within or adjacent to any wild horse Herd Areas (HA) or Herd Management Areas (HMA).	C. Hunter CH	3/17/15
NP	Lands with Wilderness Characteristics	The 2011 and updated 2014 wilderness characteristics inventory did not identify any areas with wilderness characteristics within the proposed project area.	Dave Jacobson DJ	3-12-2015

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator		7/16/15	
Authorized Officer		7/23/15	

Appendix B. Final Plan of Development

PLAN OF DEVELOPMENT

**Iron Springs Solar Project Generation Tie Line
Iron County, Utah**

Prepared for:

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Prepared by:



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June 2015

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Figure 1 Project Area

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Table 1 Summary of Estimated Disturbance

APPENDICES

Appendix A Detailed Project Maps

Appendix B Structure Diagrams

Appendix C Reclamation Plan

Appendix D Biomass Project Design Features

ACRONYMS AND ABBREVIATIONS

APLIC	Avian Power Line Interaction Committee
applicant	Iron Springs Solar, LLC
BLM	U.S. Bureau of Land Management
BMP	Best Management Practice
cm	centimeter
gen-tie line	generation tie line
GTPSRMA	Greater Three Peaks Special Recreation Management Area
kV	kilovolt
NRHP	National Register of Historic Places
OPGW	optical ground wire
OSHA	Occupational Safety and Health Administration
POD	Plan of Development
POI	Point of Interconnection
ROW	right-of-way
S.L.B. & M.	Salt Lake Base and Meridian
SWPPP	Stormwater Pollution Prevention Plan
UDSH	Utah Division of State History

1. PROJECT DESCRIPTION

Iron Springs Solar, LLC (the applicant), a wholly owned subsidiary of SunEdison, Inc., proposes to construct, own, and operate the Iron Springs Solar Project, an 80 megawatt solar photovoltaic electricity generating facility located on approximately 883 acres of private land within unincorporated Iron County. The proposed Project includes construction and operation of a 138 kilovolt (kV) generation tie line (gen-tie line) to connect the electricity generated from the Project to the Rocky Mountain Power Three Peaks Substation (see Figure 1). The gen-tie line would be owned and operated by the applicant.

The Project would require a fiber optic line from the local telecommunications service provider (e.g., AT&T) for use in monitoring of the gen-tie line. The applicant would string the fiber optic line on the gen-tie line poles concurrent with construction of the gen-tie line. The fiber optic line would be owned and operated by Rocky Mountain Power. The fiber optic line would be optical ground wire (OPGW) for the majority of the length of the gen-tie. The OPGW would be installed at the top of the poles above the power conductors, and would be owned and operated by Rocky Mountain Power. It would transition to a 48-strand ADSS single mode fiber from the last applicant's owned transmission structure just outside the Three Peaks Substation into the control house within the substation. No additional easement is needed to install the OPGW on the gen-tie poles. There is no requirement for a redundant fiber circuit (e.g. underground fiber) that might have required an additional easement.

The gen-tie route would link the solar facility and the Point of Interconnection (POI) substation (the Three Peaks Substation), and would be sited adjacent to an existing 230 kV transmission line. A total of 2.14 miles of the gen-tie route is sited on U.S. Bureau of Land Management (BLM)-managed lands, and the remainder of the gen-tie route is sited within unincorporated Iron County (see Figure 1). The applicant is requesting a right-of-way (ROW) grant for the 2.14 mile gen-tie line on BLM-managed lands for a term of 35 years.

2. PURPOSE AND NEED FOR THE FACILITY

The gen-tie line would provide power generated from the proposed solar facility to the POI substation, as per the executed Power Purchase Agreement with Rocky Mountain Power.

3. RIGHT-OF-WAY LOCATION

The requested ROW for the proposed 138 kV gen-tie line would total 5.76 miles in length, of which 25.84 acres would be on BLM-administered land. The requested ROW would be 100 feet wide (50 feet each side of the center line) as shown in Appendix A.

The requested ROW on BLM-administered land would extend from the applicant's Iron Springs Solar Project gen-tie line in Sections 1 and 2, T. 35 S., R. 12 W., Salt Lake Base and Meridian (S.L.B. & M.), directly north terminating in Section 35, T. 34 S., R. 12 W., S.L.B. & M. The legal description for the requested ROW on BLM-administered land is:

Federal Lands Sections 1 and 12, T35S, R12W, S.L.B & M.

A strip of land one-hundred (100) feet in width, fifty (50) feet either side of the following described center line, situate in the West Half of the East Half of Sections 1 and 12, Township 35 South, Range 12 West, Salt Lake Base and Meridian.

Beginning on the North Section Line of said Section 1 at a point South 89°29'56" East along the Section Line 1162.85 feet from the corner common to Section 36, T. 34 S., R. 12 W. and Section 1, T. 35 S., R. 12 W. as monumented by an existing pipe and Iron County Survey 1988 brass cap, and running thence South 01°09'10" West along a line parallel to and 100.00 feet perpendicularly distant westerly from the center line of an existing 100.00 foot right of way grant known as the Buckskin 230 KV Power Line for a distance of 10,655.42 feet to a point of terminus on the South Section line of said Section 12, said point being North 89°05'28" East 1,192.52 feet along the Section Line from the corner common to Sections 12 and 13 as monumented by an existing pipe and Iron County Survey 1988 brass cap.

The above described right of way contains 1,065,556 square feet in area or 24.462 acres.

Federal Lands Section 35, T34S, R12W, S.L.B. & M.

A strip of land one-hundred (100) feet in width, fifty (50) feet either side of the following described center line, situate in the Southeast Quarter of Section 35, Township 34 South, Range 12 West, Salt Lake Base and Meridian.

Beginning on the East Section Line of said Section 35 at a point North 01°53'17" East along the Section Line 1,317.72 feet from the corner common to Sections 35 and 36, T. 34 S., R. 12 W. and Sections 1 and 2, T. 35 S., R. 12 W. as monumented by an existing pipe and Iron County Survey 1988 brass cap, and running thence South 89°11'43" West 50.00 feet; thence North 01°53'17" East 497.73 feet; thence North 89°21'31" East 50.00 feet to a point of terminus on the East Section Line of said Section 35.

The above described right of way contains 59,753 square feet in area or 1.372 acres.

The requested ROW is within the Greater Three Peaks Special Recreation Management Area (GTPSRMA), and is immediately adjacent to an existing 230 kV transmission line through the entire length of the gen-tie within BLM-administered lands.

In addition to BLM-administered lands, the requested ROW would cross 3.62 miles of private land within unincorporated Iron County encompassing about 44 acres. The applicant has obtained a Conditional Use Permit for the Iron Springs Solar Project and the portion of the gen-tie route on private lands in unincorporated Iron County.

4. GOVERNMENT AGENCIES INVOLVED

The government agencies potentially involved are:

- BLM
- Iron County
- Utah Division of Wildlife Resources
- US Fish and Wildlife Service

5. FACILITY DESIGN FACTORS

The gen-tie line would be supported on galvanized steel structures (Appendix B). The gen-tie line would have approximately 13 structures on BLM-administered land. Up to 26 additional structures would be installed on private property in unincorporated Iron County. Poles would be between 70 and 95 feet in height from ground to top. The distance from the pole to the conductor attached to each insulator would be at least 5 feet. There would be 12 horizontal feet between each phase conductor.

Utility lines can potentially result in electrocution of large birds because their wing span is large enough that the bird can simultaneously contact two conductors or a conductor and grounded hardware (Avian Power Line Interaction Committee [APLIC] 2006). Therefore, any structures that allow for circuit completion (i.e., flesh-to-flesh contact between energized parts or an energized and grounded part) pose an electrocution risk. To protect birds from possible electrocution, the APLIC recommends that lines have a horizontal separation of 60 inches (150 centimeters [cm]) and a vertical separation of 40 inches (100 cm) between phase conductors or between a phase conductor and grounded hardware (APLIC 2006). The risk of electrocution for the Project is likely to be low because the gen-tie line design would follow APLIC guidelines for the design of overhead lines (APLIC 2006).

6. ACCESS

Primary access to the ROW would be via existing county roads, where available. The portion of the gen-tie on BLM-managed lands is not adjacent to an existing county road. For the sections of the ROW that do not parallel an existing county road, a permanent, bladed access road would be

constructed within the ROW. A total of 2.14 miles of access roads would be constructed within the BLM ROW. The access roads would be bladed routes (constructed to Rocky Mountain Power standards) measuring approximately 25 feet in width, totaling 6.47 acres of temporary disturbance within the BLM ROW during construction of the Project. Following construction, the access roads will be reclaimed to 12 feet in width, totaling 3.11 acres of permanent disturbance within the BLM ROW for the life of the Project.

7. CONSTRUCTION OF THE FACILITIES

A pre-construction meeting would be held with the applicant, BLM, and construction contractors.

The ROW would be staked and flagged by placing a stake in the ground at each structure location. Vegetation within the ROW would be managed according to the wire zone-border zone concept, in compliance with PacifiCorp's Transmission and Distribution Vegetation Management Program (PacifiCorp 2008). The wire zone is the portion of the ROW that includes an area extending 10 feet out from either side of the wire(s). The border zone is the portion of the ROW between the wire zone and the ROW boundary. For this type/size of transmission line and components, vegetation within the wire zone would be comprised of grasses, legumes, herbs, ferns, and low-growing shrubs (under 5 feet at maturity). Vegetation in the border zone could consist of tall shrubs or short trees (up to 25 feet in height at maturity), grasses, and forbs.

Prior to construction, large vegetation, including trees and larger shrubs (vegetation that would be more than 5 feet high at maturity), would be removed from temporary access routes and within the wire zone to meet the above described specifications. Trees in the wooded areas within the wire zone (35 feet wide for single poles and 50 feet wide for double poles) of the ROW would be cleared to avoid potential contact with conductors and other potential construction and maintenance problems associated with the trees, such as interference with equipment operation or those that pose a threat to the safety of workers. Trees would be felled using a chainsaw and would be mulched and scattered within the ROW. The ROW would be reseeded using the seed mix provided by BLM (Appendix C). Given the vegetation communities present within the ROW, minimal maintenance of vegetation within the border zone would be anticipated to maintain trees and shrubs below 25 feet in height.

The gen-tie line would be designed and constructed by the applicant. The timeframe for construction of the gen-tie line is November 2015 through June 2016. Typical equipment expected to be used for construction of the gen-tie line includes a backhoe, forklift, crane, various pickup and flatbed trucks, bucket trucks, and truck-mounted tensioner and puller. Previously disturbed areas would be used to the extent possible for material and equipment

staging. Construction staging sites would be located at an area to be determined within the Iron Springs Solar Project area on privately-owned land, and within the areas identified as stringing sites within the gen-tie ROW. It is not anticipated that additional, dedicated staging areas would be required along the ROW. The maximum number of construction personnel anticipated to be on-site for the construction of the generation tie-line is expected to be approximately 20.

Pole structures would generally be installed in sequential order starting from either end of the line. The sequence of construction may be altered due to weather, wildlife timing restrictions, or other factors. Holes would be dug for the poles using a truck-mounted auger. Blasting would not be required within the ROW. Rubber tired or track vehicles would be used to haul the structure components (poles, insulators, crossarms, hardware, etc.) to the pole locations; the type of vehicle used would be dependent on the type of equipment needed, type of access available, and local site conditions.

Poles would be assembled on the ground within a short-term disturbance area at the pole locations and erected by a boom truck. In areas not vegetated with trees that would require cutting, lower vegetation types (shrubs, etc.) would be trampled and crushed. Typical structure installation at each pole location would involve short-term surface disturbance of approximately a 100 by 100-foot rectangle area around each structure; totaling approximately 2.53 acres. Short-term disturbance areas are those areas that would be disturbed in conjunction with construction and rehabilitated at the completion of construction.

When structures are in place, the conductors would be strung. A pulling line, or sock line, would be laid along the route by a light vehicle or by hand. Ground crews would place the sock line in pulleys on each structure at the conductor location. Each stringing site area would measure approximately 400 by 100 feet, and would be used to pull the conductor through the pulleys using a reel truck. A total of six stringing sites would be required within and adjacent to the ROW; one would be located at Structure #1, two at Structure #16, two at Structure #32, and one at Structure #38 (see Appendix A). One stringing site would be located along the gen-tie ROW on private lands; the other five of the stringing sites would be located outside of the gen-tie ROW. The stringing site adjacent to the POI substation (near Structure #38) would be located on BLM-administered lands.

Table 1 provides the estimated disturbance associated with construction and operation of the gen-tie line. The temporary disturbance associated with construction of the gen-tie line is provided for each of the Project components, including poles, stringing sites, and access roads. The temporary disturbance of the pole locations would consist of an area approximately 100 feet by 100 feet centered at each structure location. Total temporary disturbance associated with the presence of 13 poles within the BLM ROW would be 3.56 acres. Total temporary disturbance

associated with the stringing site on BLM-administered lands would be 0.92 acres. Total temporary disturbance associated with the 2.14 mile access road within the BLM ROW would be 6.47 acres. The total temporary disturbance of the poles, stringing sites, and access roads within the BLM ROW would be 10.95 acres. Areas of temporary disturbance would be reclaimed and revegetated following the construction period.

Table 1 also includes the permanent disturbance that would remain for the life of the Project. Permanent disturbance would be associated with the poles and access roads. The permanent disturbance of the pole locations would consist of an area approximately 20 foot by 50 foot square adjacent to each structure location. Total permanent disturbance associated with the presence of 13 poles within the BLM ROW would be 0.3 acres. The permanent disturbance associated with the access roads would consist of the permanent access for the ROW for the life of the Project; the total permanent disturbance of the access roads on BLM-managed lands would be 3.11 acres. The total permanent disturbance of the poles and access roads within the BLM ROW would be 3.41 acres. Areas of permanent disturbance would be reclaimed at the end of the life of the Project in accordance with the Reclamation Plan (Appendix C).

Table 1. Summary of Estimated Disturbance

Project Component	BLM	Private	Total
ROW (miles)	2.14	3.62	5.76
ROW (acres)	25.84	43.88	69.82
Number of poles	13	26	39
Temporary disturbance of poles (acres)	3.56	6.83	10.39
Permanent disturbance of poles (acres)	0.30	0.60	0.90
Number of stringing sites	1	5	6
Temporary disturbance of stringing sites within ROW (acres)	0	1.84	1.84
Temporary disturbance of stringing sites outside ROW (acres)	0.92	2.76	3.68
New access roads to be constructed (miles)	2.14	2.76	4.90
Temporary disturbance of access roads (acres)	6.47	8.70	15.17
Permanent disturbance of access roads (acres)	3.11	4.01	7.12
Existing roads to use for access (miles)	0	0.75	0.75
TOTAL TEMPORARY DISTURBANCE (ACRES)	10.95	20.13	31.08
TOTAL PERMANENT DISTURBANCE (ACRES)	3.41	4.61	8.02

8. RESOURCE VALUES AND ENVIRONMENTAL CONCERNS

Construction, operation, and maintenance of the Project would comply with all applicable Federal and state laws and local zoning and building ordinances during all phases of the Project.

The following Best Management Practices (BMPs) would be implemented to minimize environmental impacts associated with the Project. The BLM may inspect the Project at any time to ensure compliance with these BMPs and other requirements.

Air Quality

Construction activities including clearing, grading, and moving of heavy equipment would create fugitive dust at various rates throughout the construction cycle of the Project. Any substantial fugitive dust is expected to be short-term and limited to the time period of early construction during clearing and grading activities and construction of any access roads. Dust would be controlled by covering stockpiles with tarps and trucks would apply water for dust suppression and soil conditioning. During the operations period there is expected to be a minimal amount of fugitive dust emitted from the right-of-way which would be limited to periodic truck traffic.

Visual Resources

The gen-tie line that is subject of this ROW application is located within the GTPSRMA. The proposed gen-tie line would be located approximately 0.25 miles from the eastern border of the GTPSRMA and would not be located within the concentrated recreation area of the GTPSRMA.

Revegetation of disturbance areas both within and outside the ROW would help reduce the appearance of contrast in areas with grassland and shrub vegetation. Additionally, as the gen-tie line would be built adjacent to an existing 230 kV transmission line, construction and operation of the Project gen-tie line is not anticipated to result in any additional visual impacts to users of the GTPSRMA.

Water Resources

Water would be required during construction of the Project gen-tie line for dust control and soil conditioning. Potable water for drinking and domestic needs during construction would be brought to the Project. Water would be purchased from a nearby source that would be approved by the Utah State Engineer for those purposes.

The Project will be required to comply with the Utah Pollutant Discharge Elimination System stormwater pollution standards under the Storm Water General Permit for Construction Activities. As part of this process, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared. BMPs would be used as needed to control stormwater discharges. These practices include material handling and temporary storage procedures that minimize the exposure of potential pollutants to stormwater, spill prevention and response, sediment and erosion controls, and physical stormwater controls. Site runoff would be controlled and managed in accordance with BMPs identified in the SWPPP.

No water would be required for the gen-tie line during operations.

Wetlands and Waters of the U.S.

A delineation of wetlands and waters of the U.S. has been conducted for the gen-tie line and a copy of the jurisdictional determination from the U.S. Army Corps of Engineers will be provided to BLM upon receipt. All necessary permits and approvals will be obtained prior to construction.

The gen-tie line would be designed to site facilities outside of existing wetlands as feasible. All perennial and intermittent streams and dry washes would be spanned by the gen-tie line with a buffer of at least 10 feet between the stream bank and the nearest pole. To the extent practical, all disturbances associated with installation of poles would be on the upslope side of the pole. In areas where there is a perceptible slope, straw waddles would be placed or silt fence constructed downslope of disturbance to impede sediment from entering surface waters. Straw waddles or silt fence would be maintained until disturbance areas are successfully revegetated.

In order to minimize disturbance and protect water resources to the extent possible, poles would be placed as far away as possible from wetlands or riparian areas, as agreed upon with the BLM. Disturbance would be at least 100 meters of separation from riparian areas, where possible. In areas where at least 100 meters of separation from riparian areas could not be achieved, poles would generally be placed as far away as possible from riparian areas, to create a buffer between the disturbance and water resources, as agreed upon with the BLM. Cutting of trees within the ROW in areas within 100 meters of riparian areas would be minimized, and avoided where no barrier exists.

Noise

Construction noise would be limited to the construction period of the gen-tie line. The applicant would comply with all applicable noise ordinances during construction.

Soils

Disturbance would be limited to that which is necessary for safe and efficient gen-tie line construction.

No construction activities would take place when the soil is too wet to adequately support construction equipment, resulting in surface ruts in excess of 4 inches deep. Construction in such areas would be delayed until soil conditions improve.

The use of silt fences and/or certified weed-free straw bales, and watering of roads and staging areas, would be used to minimize erosion as needed and in accordance with applicable permits and plans.

Invasive Species/Noxious Weeds

All equipment, including pickup trucks and passenger vehicles, would be cleaned prior to entering the Project area to reduce the potential to spread invasive weeds. The cleaning of equipment would also be done any time thereafter if the equipment leaves the Project area, is used on another project, and reenters the Project area. The applicant would follow all regulations pertaining to control of noxious weeds on BLM land. The applicant would be responsible for any future weed control work during implementation of the Project as part of the ongoing maintenance of the gen-tie line. Any proposed use of herbicides would comply with BLM requirements.

Woodland Products and Forestry

Cutting of trees would be limited to areas of absolute necessity for safe construction, operations, and maintenance practices. Specifically, within the ROW cutting of trees would be limited to the wire zone and access routes. In accordance with 43 CFR 2805.15(c) and 5462.2(b)(1) a permit would be required for the removal and disposal of vegetative resources on BLM-managed lands. The applicant has committed to incorporating Biomass Project Design Features (Appendix D).

Raptors and Migratory Birds

Raptor and migratory bird surveys were conducted in March 2015 and May 2015 for the gen-tie ROW (the reports were submitted to BLM under separate cover). The survey area encompassed the entire length of the 100-foot wide, approximately six-mile long ROW and an associated one-mile buffer. No active raptor or other migratory bird nests were identified during either of the survey events. During the first survey event, one red-tailed hawk (*Buteo jamaicensis*) was observed soaring over the northern portion of the survey area and one Swainson's hawk (*Buteo swainsoni*) was observed perched on a fence post along the eastern edge of the survey area. Other migratory birds observed in the Project area during the first survey event included: common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), and western meadowlark (*Sturnella neglecta*). The second survey event documented the following species of other migratory birds: common raven, white-crowned sparrow (*Zonotrichia leucophrys*), Bullock's oriole (*Icterus bullockii*), western kingbird (*Tyrannus verticalis*), Stellar's jay (*Cyanocitta stelleri*), mountain bluebird (*Sialia currucoides*), Brewer's blackbird (*Euphagus cyanocephalus*), and barn swallow (*Hirundo rustica*).

A potential long-billed curlew (*Numenius americanus*) nest location was documented in the southwestern portion of the Project area during the first survey event. Two adults were observed exhibiting behaviors which suggested a potential nest at the site. However, no nest or eggs was confirmed. The area was revisited in May, but curlews were not present.

During the first survey event, a pair of burrowing owls (*Athene cunicularia*) were observed in the southwest area of the Project on private land, approximately 375 feet from the edge of the ROW; during the second survey event, no burrowing owls were observed, but evidence of burrowing owl use was found at the previously identified burrow locations.

The U.S. Fish and Wildlife Service (USFWS) Utah Field Office *Guidelines for Raptor Protection from Human and Land Use Disturbance* recommends a spatial buffer of 0.25 mile and seasonal buffer from March 1 to August 31 for nesting burrowing owls near surface disturbing projects (Romin and Muck 2002). The gen-tie ROW is within 0.25 mile of the burrowing owl nest burrows.

If required by the BLM, spatial and seasonal buffers would be applied during construction in accordance with the BLM's *Best Management Practices for Raptors and Their Associated Habitats in Utah* (BLM 2006). Monitoring would be conducted at the BLM's direction during the nesting season.

Wildlife, Including Special Status Species

On April 1, 2015, a low-intensity level survey for Utah prairie dog (*Cynomys parvidens*) was conducted, following the 2014 USFWS protocol (USFWS 2014), within the Project area and a 1,100-foot buffer (Utah prairie dog survey area). Habitat in the Utah prairie dog survey area appeared able to support the species, but was confirmed unoccupied. Habitat was also mapped during the baseline survey; it consisted of patches of pasture/grassland in the southern portion of the Project. Within the Utah prairie dog survey area, approximately 0.24 acre of unoccupied Utah prairie dog habitat occurs within the 100-foot ROW. All unoccupied habitat in the ROW and the 1,100-foot buffer is located exclusively on private land. No Utah prairie dog colonies were found within the Utah prairie dog survey area. One Utah prairie dog colony was found on private land within 0.5 miles of the ROW.

No firearms, air guns, or archery equipment would be allowed on the Project site. No pets would be permitted on the Project site. To prevent entrapment of wildlife during construction, any open pits (pole holes) would be monitored throughout the construction day. Excavated pits more than two feet deep would be covered at the close of each day. Alternatively, fencing may be erected around open pits or trenches. At the beginning of the construction day and before pits are filled, they would be inspected for trapped animals. If any animals are found, they would be moved out of harm's way. No rodenticides would be used on the Project area. Encounters with a protected species (e.g., raptors, migratory birds, or listed or special status species) would be reported to the BLM and/or the USFWS. Any contractor or employee who inadvertently kills or injures a protected species would immediately report the incident to the BLM and/or the USFWS.

Historical, Cultural, and Archaeological Resources

A cultural resources investigation has been conducted for the Project gen-tie line in accordance with methods approved by the Utah Division of State History (UDSH), which houses the Utah State Historic Preservation Office and the BLM. The gen-tie line will not impact any National Register of Historic Places (NRHP)-eligible cultural resources.

In the event that an unanticipated discovery of an archaeological resource occurs, construction work within a 150-foot-wide buffer (45 meters either side) of the discovery shall cease until an archaeologist can record the site and make a determination of the significance of said resource. Once the site has been recorded, and if the site is assessed as “not eligible” for inclusion into the NRHP, work on that area may resume pending concurrence from the UDSH of the assessment. If the site is assessed as “eligible” for inclusion into the NRHP, a mitigation plan will be proposed and sent to the UDSH for review. All work in the area of the resource shall remain halted until the mitigation process is complete and state and local guidelines are met.

Hazardous Materials and Wastes

Covered dumpsters located on the Project area would contain all refuse. Refuse would be removed on a regular basis to an approved disposal facility. Portable toilets would be used on site, and would be maintained on a regular schedule. Upon completion of construction, all refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes would be removed from the site and disposed of properly.

Construction equipment would contain various hazardous materials such as hydraulic oil, diesel fuel, grease, lubricants, solvents, adhesives, paints, and other petroleum-based products contained in construction vehicles. All potentially hazardous materials would be contained, stored, and used in accordance with the manufacturers’ instructions and handled in compliance with the applicable standards and regulations, such as those administered by the Iron County Fire Department and the Occupational Safety and Health Administration (OSHA). Construction waste would be disposed of in accordance with all applicable requirements. Operation of the Project would not generate solid or hazardous waste.

No vehicle refueling would occur within the ROW. Diesel fuel, gasoline, engine oil, and antifreeze in mobile equipment are the only hazardous material liquids proposed for use on the ROW during construction and operations/maintenance. No toxic or hazardous substances would be stored in the ROW or generated during any phase of the Project. If a fuel/oil or other hazardous material spill were to occur, the BLM and other required regulatory agencies would be contacted as soon as possible, actions would be taken immediately to minimize the amount and

spread of the spill material, and cleanup would be conducted in accordance with the approved spill prevention, control, and countermeasures plan.

Human Health and Safety

Construction of the Project would be managed to prevent harm to any person and property. During construction, all employees, project managers, supervisors, inspectors, contractors, and subcontractors would be required to conform to safety procedures. All personnel would be adequately trained to perform their tasks. Heavy equipment would be outfitted with OSHA-required safety devices such as backup warnings and seat belts. Hard hats, safety boots, ear and eye protection, and other personal safety equipment would be available to all construction personnel. All accidents and injuries would be reported to the safety officer in accordance with OSHA requirements.

Fire Prevention and Protection

All construction personnel would have fire tools and extinguishers available at all times and would be trained in basic fire control procedures. Construction staff would adhere to all BLM-required Fire Prevention and Suppression Measures. The applicant would provide emergency response training to the Iron County Fire Department prior to construction.

During the operations and maintenance phase of the Project, vegetation would be maintained clear of poles, and any or all trees within the ROW would be removed or maintained at a height that would not contact the conductors, or pose a fire hazard.

9. STABILIZATION AND REHABILITATION

The gen-tie line is within the proposed Horse Hollow Vegetation Enhancement Project area; an Environmental Assessment is currently being prepared by BLM for this effort. The primary purpose of this vegetation enhancement project is to reduce hazardous fuels and risk to life and property from catastrophic wildland fire. The applicant will work with BLM to restore the temporary disturbed areas in accordance with the plans for the Horse Hollow Vegetation Enhancement Project.

Construction of the gen-tie line would remove 10.95 acres of vegetation from the BLM ROW. After construction, the temporary construction areas would be revegetated, leaving a permanent impact of 3.41 acres to the BLM ROW from the permanent Project features, including access road and pole locations.

Vegetation removal would be kept to that necessary to install the gen-tie line and for future safe operation. Any brush or trees removed during construction would be used as mulch during reclamation activities.

All areas subject to temporary ground disturbance (e.g., pole areas, spur routes), would be restored in accordance with the Reclamation Plan (Appendix C). A certified weed-free seed mix (Appendix C) would be used during reclamation activities, and would utilize native species found in or endemic to the area.

The estimated costs of reclamation of the 2.14 mile gen-tie on BLM-administered land will be provided at a later date in coordination with ongoing vegetation management discussions with the BLM.

10. OPERATION AND MAINTENANCE

The applicant would be responsible for operations and maintenance of the gen-tie line as part of the solar project. Following Project construction, operation and maintenance of the new gen-tie line would commence. The applicant would maintain the ROW in accordance with the grant stipulations. Operation and maintenance activities would include all operation and maintenance requirements set forth by the North American Electric Reliability Corporation including patrol of the lines, climbing inspections, and transmission structure (tower or pole) and wire maintenance and repair. The applicant would keep necessary work areas around all structures clear of vegetation that would inhibit operations and maintenance activities. The following sections provide details on the anticipated operation and maintenance requirements for the proposed gen-tie line.

Safety

The gen-tie line would be protected with power circuit breakers and related line relay protection equipment. Lightning protection would be provided by overhead ground wires (shield wires or OPGW) along the gen-tie line. Electrical equipment and fencing at the substation would be grounded. All existing metal gates, pipelines, etc. that cross or are within the gen-tie line ROW would be grounded according to local, state, and national code requirements.

Inspection and Maintenance Schedule and Level of Use

The Project ROW would be periodically patrolled to inspect its condition and identify problem areas so that maintenance crews may be scheduled to correct any problems. Inspections would be performed on average once per year, or as needed to detect facilities needing repair or replacement.

Routine maintenance activities would not require new ground disturbance; however, previously disturbed areas may be redisturbed. Access would be via existing access roads. Normal maintenance or repairs to conductor or insulator components would not require notification of the BLM unless new ground disturbance is required.

Crews would be instructed, in accordance with specific maintenance plans and procedures, to protect vegetation, wildlife, and other resources. Specific training would be provided to all maintenance crews prior to initiation of maintenance activities. Restoration procedures following completion of repair work would be similar to those prescribed for Project construction in accordance with the Reclamation Plan (Appendix C).

Emergency Response

Emergencies are any event requiring immediate response to a condition by applicant personnel. These may include, but are not limited to, downed structures, fires, transformer outages and/or outages due to down wire as a result of extreme weather. In emergency situations, repair work would be conducted as soon as the damage is detected. Responding crews would vary in number and equipment needs depending on the size and severity of the emergency. Crews would be instructed to protect plants, wildlife, and other environmental resources. BLM would be contacted in a timely manner regarding emergency maintenance on public lands.

Vegetation Management and Noxious Weed Control

Vegetation would be managed in accordance with the Reclamation Plan (Appendix C). Vegetation management during operation is expected to be limited. Work areas would be maintained adjacent to transmission structures for vehicle and equipment access necessary for operations, maintenance and repair.

Weed control treatments would include all legally permitted chemical, manual and mechanical methods applied with the authorization of the BLM. The applicant would treat the ROW during the first growing season with a BLM-approved herbicide. The application of herbicides would be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor and implemented by a Licensed Qualified Applicator. For the lifespan of the Project (i.e., as long as the Project is physically present), long-term measures to control the introduction and spread of noxious weeds in the Project area would include washing of all vehicles and equipment (including wheels, undercarriages, bumpers, and tools) at an off-site washing facility (e.g., a car wash or truck wash) immediately before entering the ROW and prior to returning to the ROW should equipment be used in a different area.

Fire Control

All applicable fire laws and regulations would be observed during the operation and maintenance period. All personnel would be advised of their responsibilities under the applicable fire laws and regulations, including taking practical measures to report and suppress fires.

BLM fire safety standards would be followed. All applicable requirements for fire tool availability and spark arresters/mufflers on equipment would be followed, as applicable. The applicant would coordinate with BLM if operation and maintenance activities are scheduled in periods of extreme fire conditions. When extreme fire conditions occur, BLM representatives would be contacted and access would be restricted, if warranted.

11. TERMINATION AND RESTORATION

If the Project is to be terminated or abandoned, a meeting would be held with the applicant and the BLM to agree upon an acceptable rehabilitation plan for the gen-tie line.

12. REFERENCES

- Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Available online at <http://www.aplic.org/uploads/files/2643/SuggestedPractices2006%28LR-2%29.pdf>, accessed January 2015.
- PacifiCorp. 2008. PacifiCorp's Transmission and Distribution Vegetation Management Program.
- Romin, L.A. and J.A. Muck. 2002. Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances. U.S. Fish and Wildlife Service, Utah Field Office, Salt Lake City, Utah. January 2002 update.
- U.S. Bureau of Land Management (BLM). 2010. Visual Resource Inventory: Cedar City Field Office. September 2010. Available online at http://www.blm.gov/style/medialib/blm/ut/natural_resources/visual_resource_mgmt0.Par.38468.File.dat/CedarCity_093010VRI.pdf, accessed January 2015.
- _____. 2006. Best Management Practices for Raptors and Their Associated Habitats in Utah. August 2006.

FIGURES

Iron Springs Solar Project

Iron County, UT

Project Area

Legend

- Iron Springs Gentle Slope
- Requested Right-of-Way on BLM Land
- Iron Springs Solar Project Area
- Municipal Boundary
- Railroad

Existing Utilities

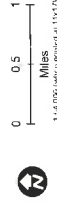
- Existing Substation
- 138kV Transmission Line
- 230kV Transmission Line
- 345kV Transmission Line

Hydrology

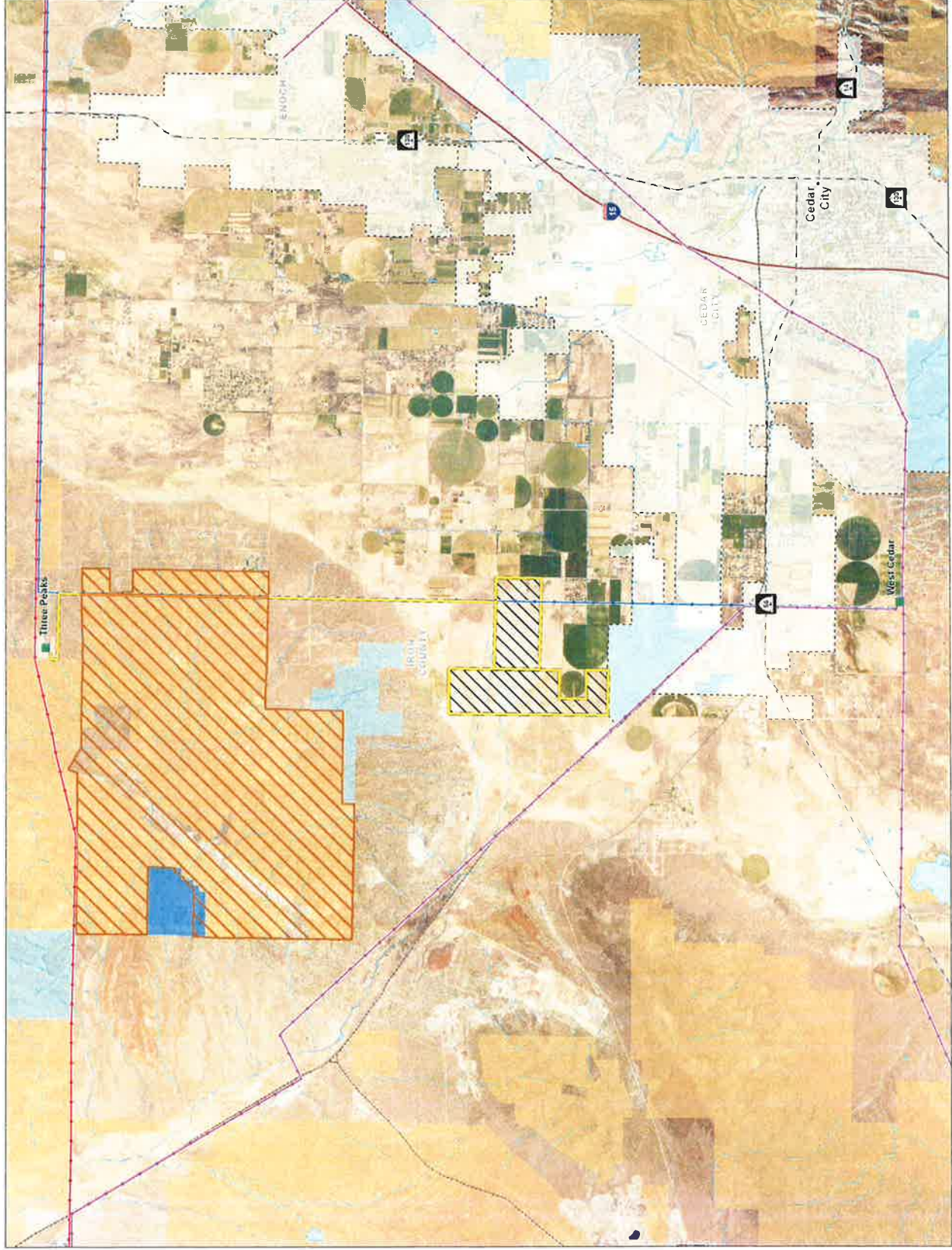
- Perennial Lake
- Intermittent Lake
- Perennial Stream
- Intermittent Stream
- Canal/Ditch

Jurisdiction

- Bureau of Land Management
- Three Peaks Special Recreation Management Area
- Iron County Shooting Range
- State of Utah



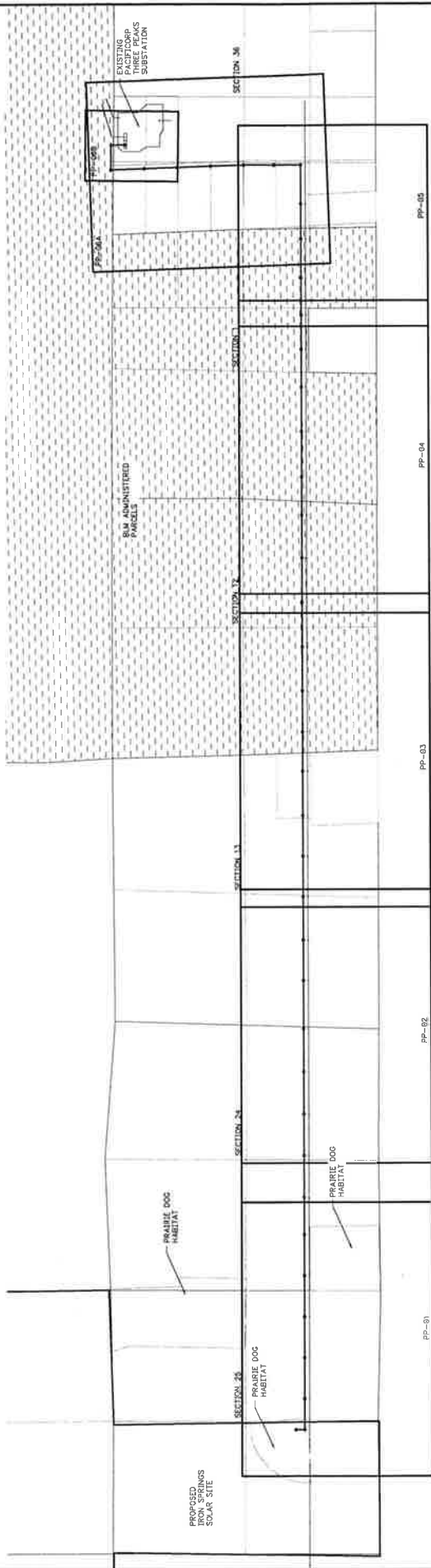
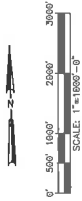
Revised: 10/2017
 Iron Springs Solar Project
 Map of Iron County, Utah, showing the project area and surrounding features.



APPENDIX A

Detailed Project Maps

NOTES: 1. SEE THE PROJECT MANUAL FOR THE SPECIFICATIONS AND REQUIREMENTS.



NO.	DATE	REVISION
1	8/7/13	REVISED STRUCTURE FRAMING
2	1/22/15	ISSUED FOR REVIEW

DESIGNED BY: P. BOSANQUET	DATE: FEB 2015
DRAFTED BY: L. BERNLOHR	DRAWING NO.: 1443PP
CHECKED BY:	PROJECT NO.: 14435
APPROVED BY:	REVISION NO.: A

DESIGNED BY: P. BOSANQUET	DATE: FEB 2015
DRAFTED BY: L. BERNLOHR	DRAWING NO.: 1443PP
CHECKED BY:	PROJECT NO.: 14435
APPROVED BY:	REVISION NO.: A

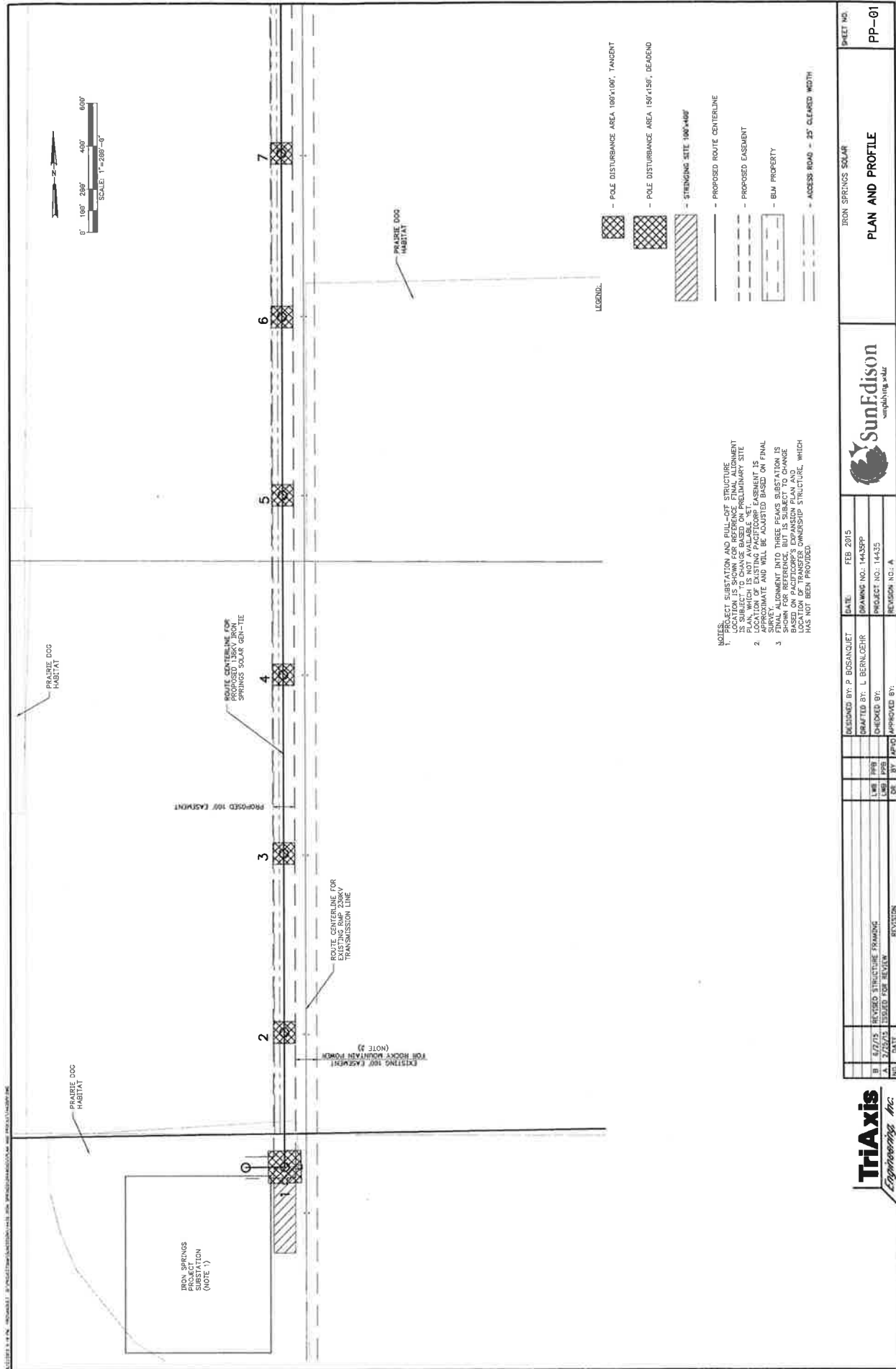
DESIGNED BY: P. BOSANQUET	DATE: FEB 2015
DRAFTED BY: L. BERNLOHR	DRAWING NO.: 1443PP
CHECKED BY:	PROJECT NO.: 14435
APPROVED BY:	REVISION NO.: A

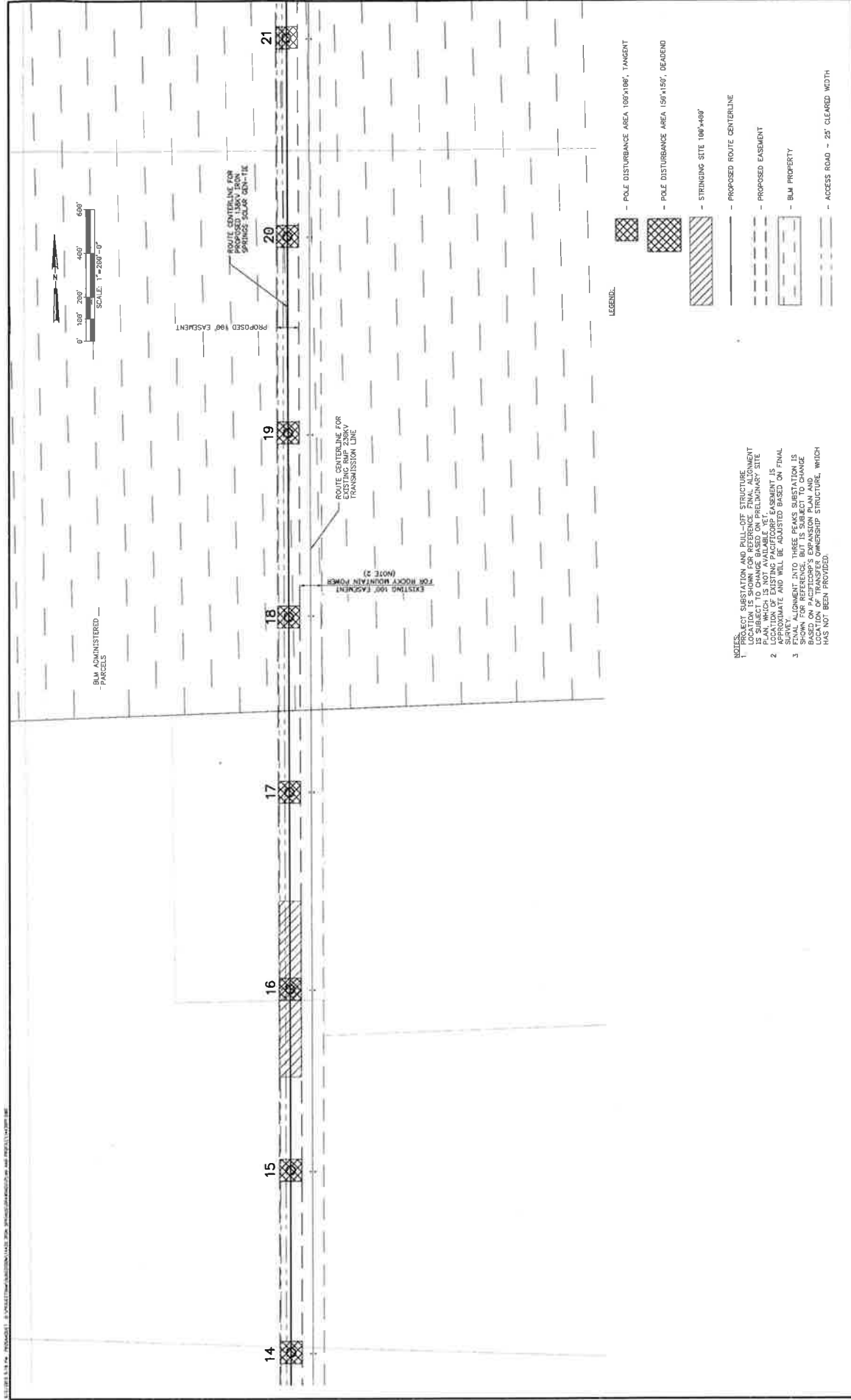


IRON SPRINGS SOLAR
PLAN AND PROFILE
OVERALL ROUTE

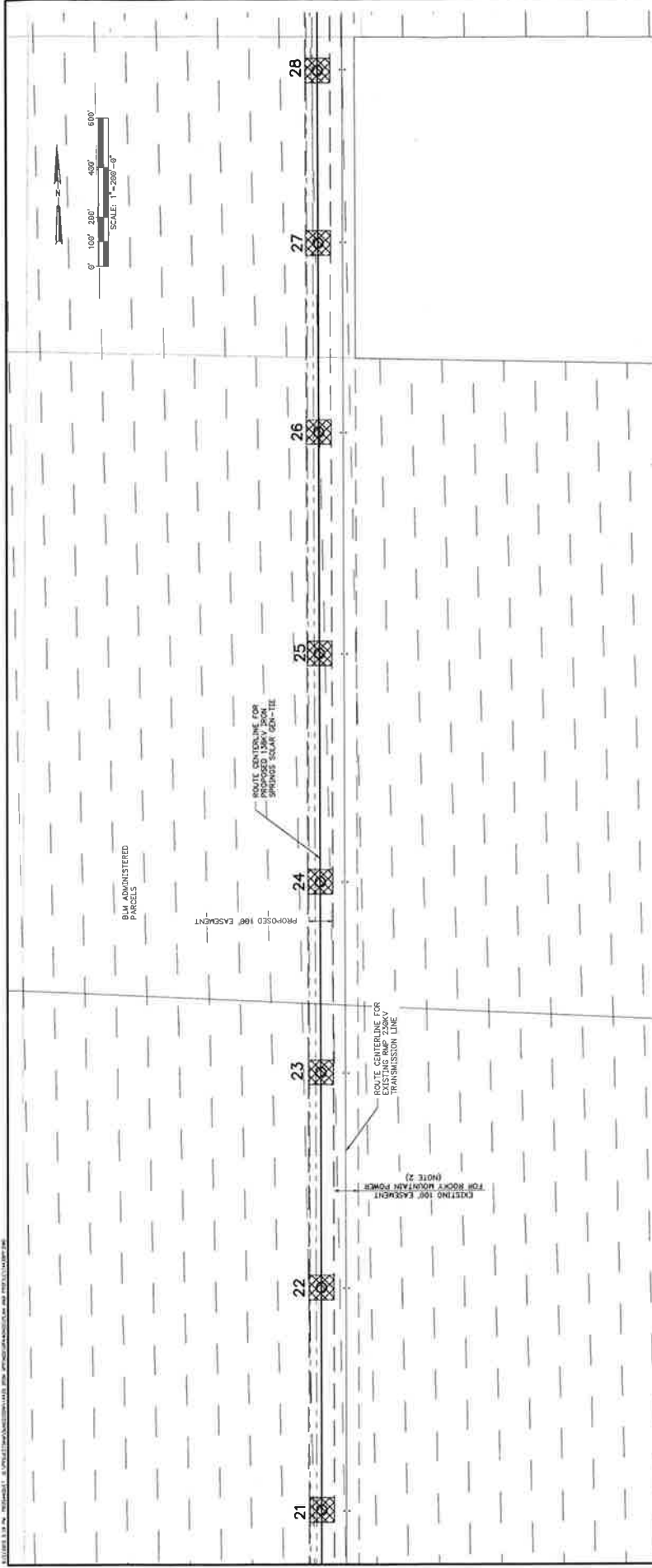
SHEET NO.
PP-00

PRELIMINARY





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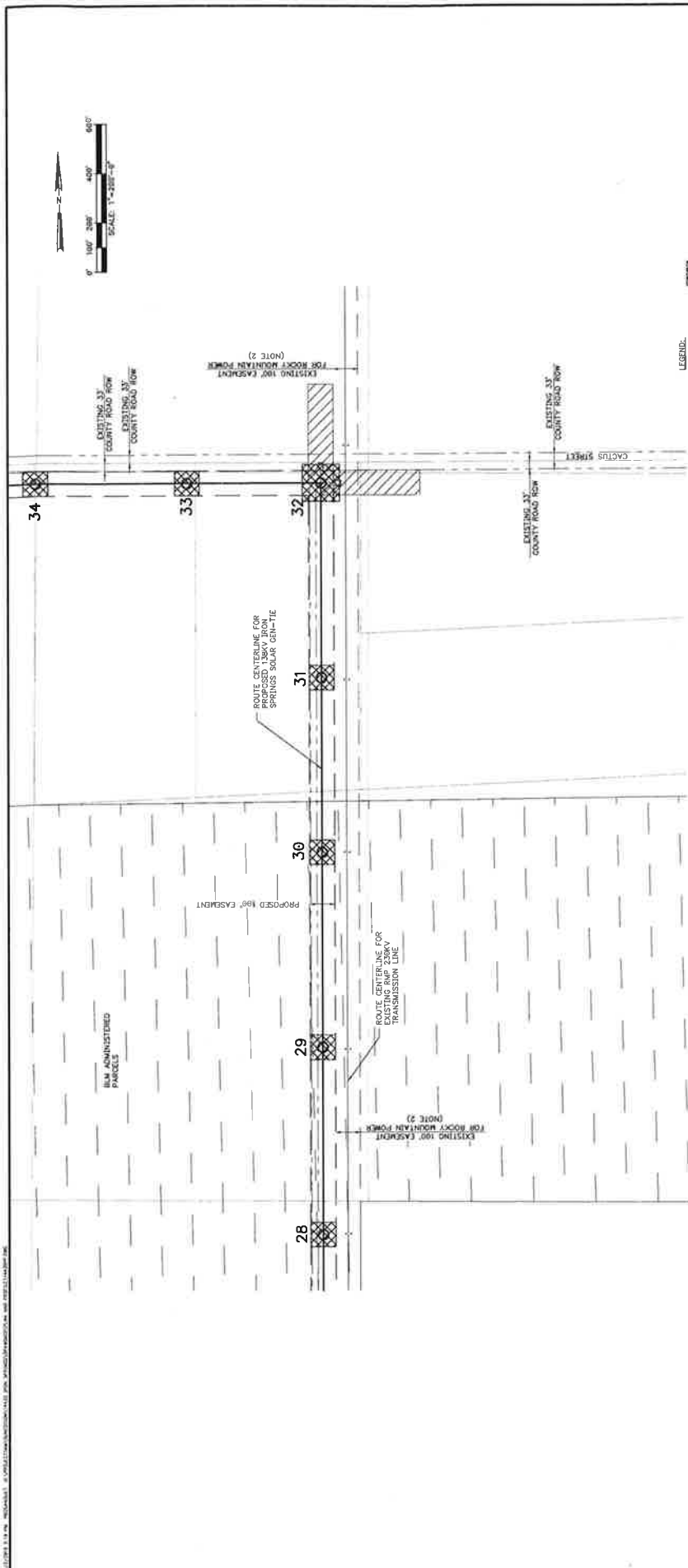


LEGEND:








- POLE DISTURBANCE AREA 100'x100', TANGENT
- POLE DISTURBANCE AREA 150'x150', DEADEND
- STRINGING SITE 100'x400'
- PROPOSED ROUTE CENTERLINE
- PROPOSED EASEMENT
- BLM PROPERTY
- ACCESS ROAD - 25' CLEARED WIDTH

NOTES:
1. PROJECT SUBSTATION AND PULL-OFF STRUCTURE LOCATION IS SHOWN FOR REFERENCE. FINAL ALIGNMENT IS BASED ON THE PROPOSED EASEMENT SITE PLAN, WHICH IS NOT AVAILABLE YET.
2. LOCATION OF EXISTING PACIFICORP EASEMENT IS APPROXIMATE AND WILL BE ADJUSTED BASED ON FINAL SURVEY.
3. FINAL ALIGNMENT INTO THE PULL-OFF STRUCTURE IS BASED ON THE PROPOSED EASEMENT SITE PLAN, WHICH IS NOT AVAILABLE YET. THE FINAL ALIGNMENT IS BASED ON PACIFICORP'S EXPANSION PLAN AND LOCATION OF TRANSFER OWNERSHIP STRUCTURE, WHICH HAS NOT BEEN PROVIDED.

SHEET NO.		IRON SPRINGS SOLAR		PP-04	
TriAxis Engineering, Inc.		SunEdison		PLAN AND PROFILE	
NO.		DATE		REVISION	
B		8/2/15		REVISED STRUCTURE FRAMING	
A		7/22/15		ISSUED FOR REVIEW	
DESIGNED BY: P. BOSANQUET		DATE: FEB 2015		DRAWING NO. 1443PP	
DRAWN BY: L. BERNIGER		PROJECT NO. 14-135		REVISION NO. A	
CHECKED BY:		APPROVED BY:		APPROVED BY:	
DATE:		DATE:		DATE:	



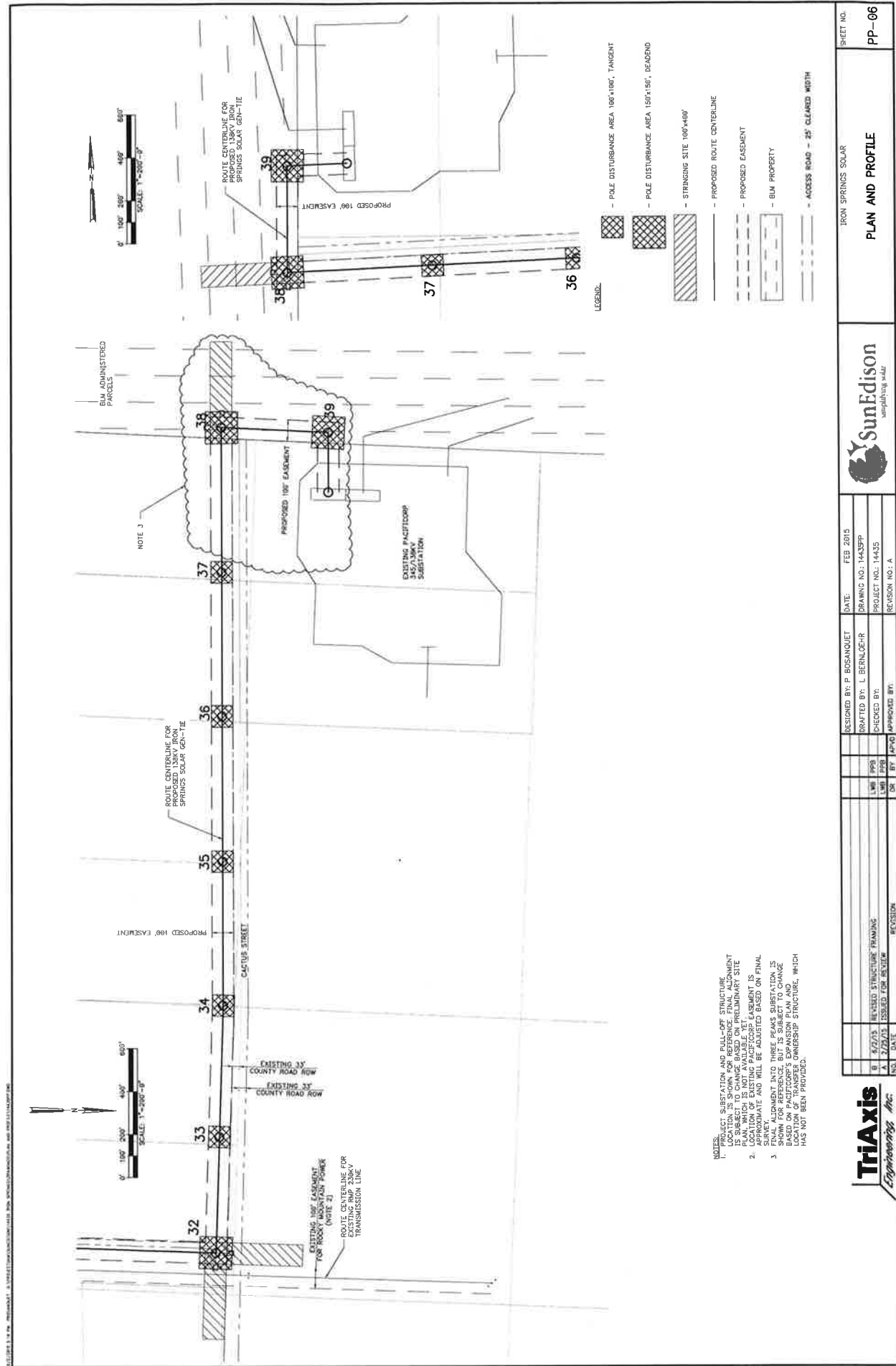
LEGEND:

-  - POLE DISTURBANCE AREA 189'x185', TANGENT
-  - POLE DISTURBANCE AREA 159'x159', HEADEND
-  - STRINGING SITE 190'x490'
-  - PROPOSED ROUTE CENTERLINE
-  - PROPOSED EASEMENT
-  - ELM PROPERTY
-  - ACCESS ROAD - 25' CLEARED WIDTH

NOTES

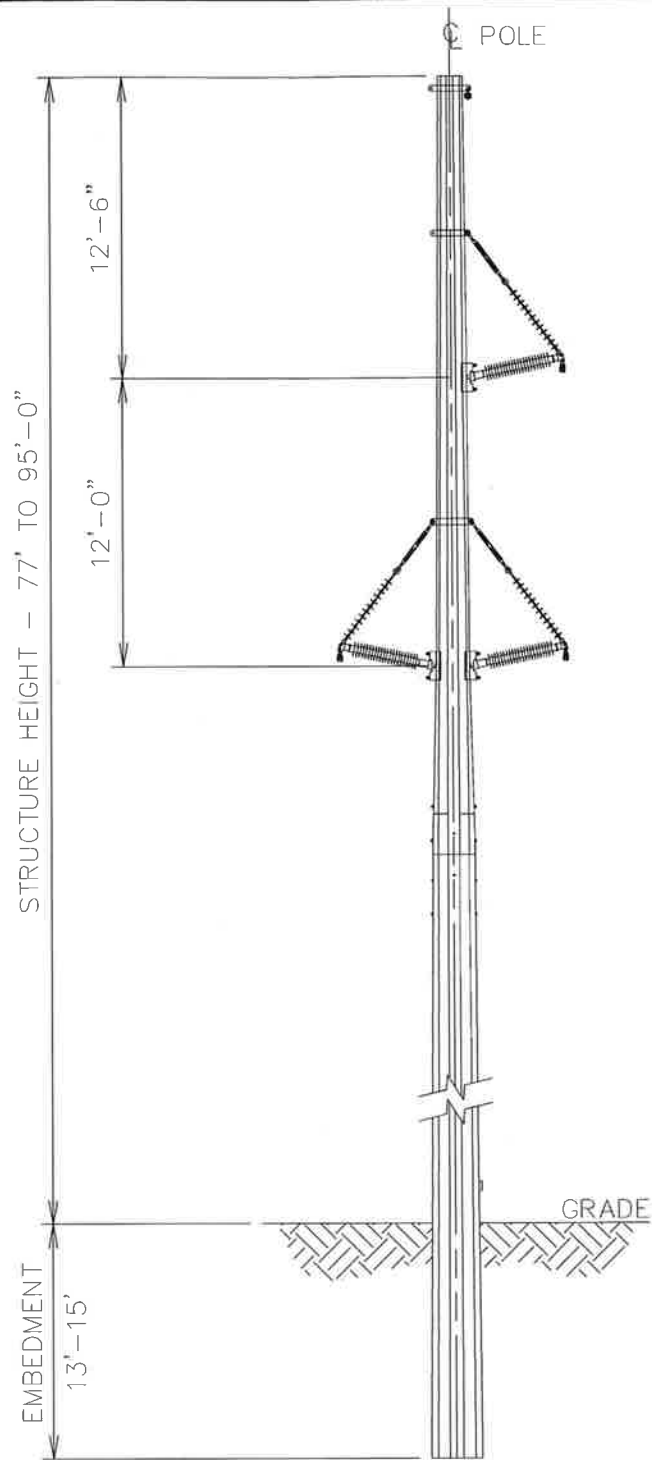
1. PROJECT SUBSTATION AND BULL-OFF STRUCTURE IS SUBJECT TO CHANGE FOR REFERENCE. FINAL ALIGNMENT IS SUBJECT TO CHANGE FOR REFERENCE. FINAL ALIGNMENT SITE PLAN, WHICH IS NOT AVAILABLE. YET.
2. LOCATION OF EXISTING PACIFICORP EASEMENT IS APPROXIMATE AND WILL BE ADJUSTED BASED ON FINAL SURVEY ALIGNMENT INTO THREE PEAKS SUBSTATION.
3. SHOWN FOR REFERENCE, BUT IS SUBJECT TO CHANGE BASED ON PACIFICORP'S EXPANSION PLAN AND LOCATION OF TRANSFER OWNERSHIP STRUCTURE, WHICH HAS NOT BEEN PROVIDED.

TriAxis <i>Engineering, Inc.</i>		DESIGNED BY: P. BOSANQUET		DATE: FEB 2015		 SunEdison supplying solar	IRON SPRINGS SOLAR	SHEET NO.
B 4/2/15		DRAFTED BY: L. BERNALCER		DRAWING NO: 144399				
A 3/25/15		CHECKED BY:		PROJECT NO: 14435				
NO. DATE		BY: JAP		REVISION NO: A				
REVISED STRUCTURE FRAMING		LMB P98				PLAN AND PROFILE		
ISSUED FOR REVIEW		LMB P98						
NO. DATE		BY: JAP		REVISION NO: A				



APPENDIX B

Structure Diagrams



ELEVATION

SINGLE CIRCUIT TANGENT STRUCTURE
W/ BRACED POST INSULATORS

DASHIELL

ENGINEERS
CONSTRUCTORS
www.dashiell.com



138kV TRANSMISSION LINE
SINGLE CIRCUIT TANGENT STRUCTURE

DATE 28 MAY 2015

DWG NO.

REV

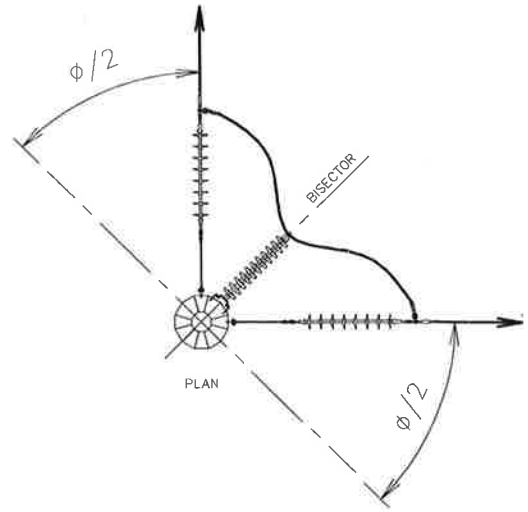
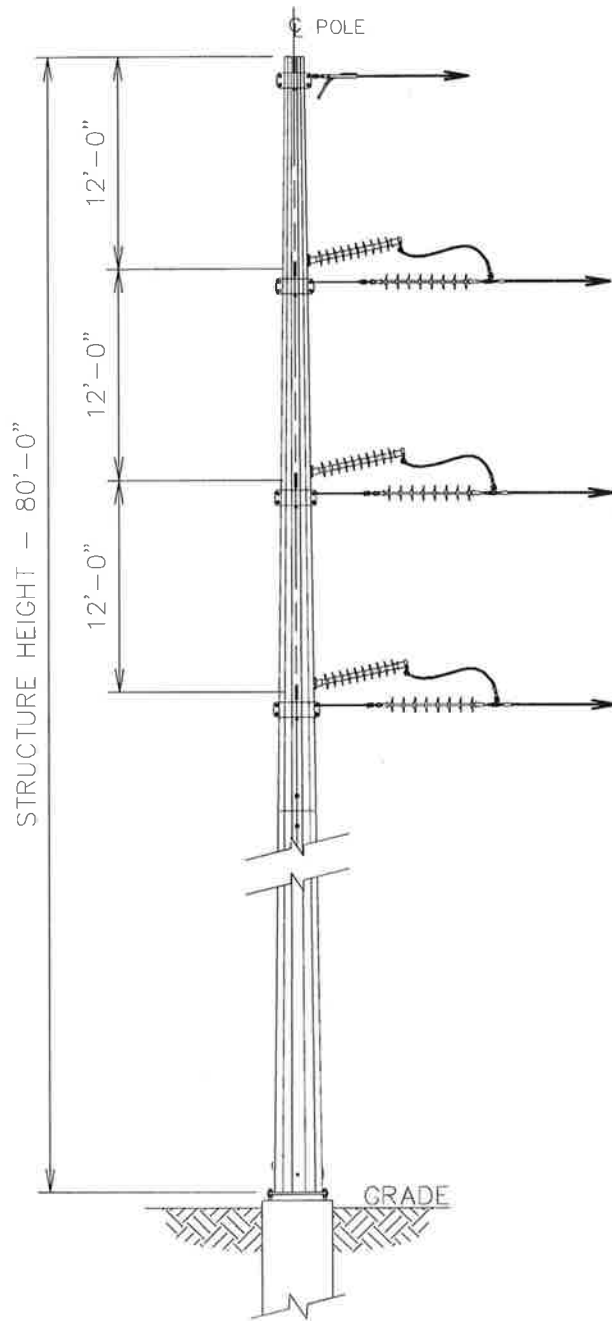
DRAWN JLC

N7403T-DT3-52003

A

ENG.

SCALE 1/8"=1'-0" SHEET Sh. 1 of 1



ELEVATION

SELF-SUPPORT DEADEND STRUCTURE

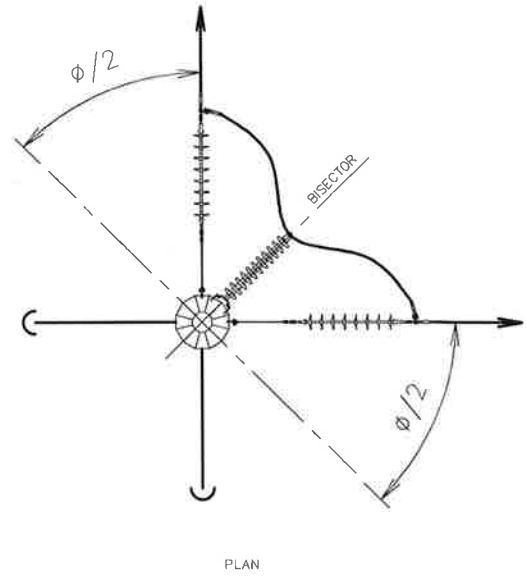
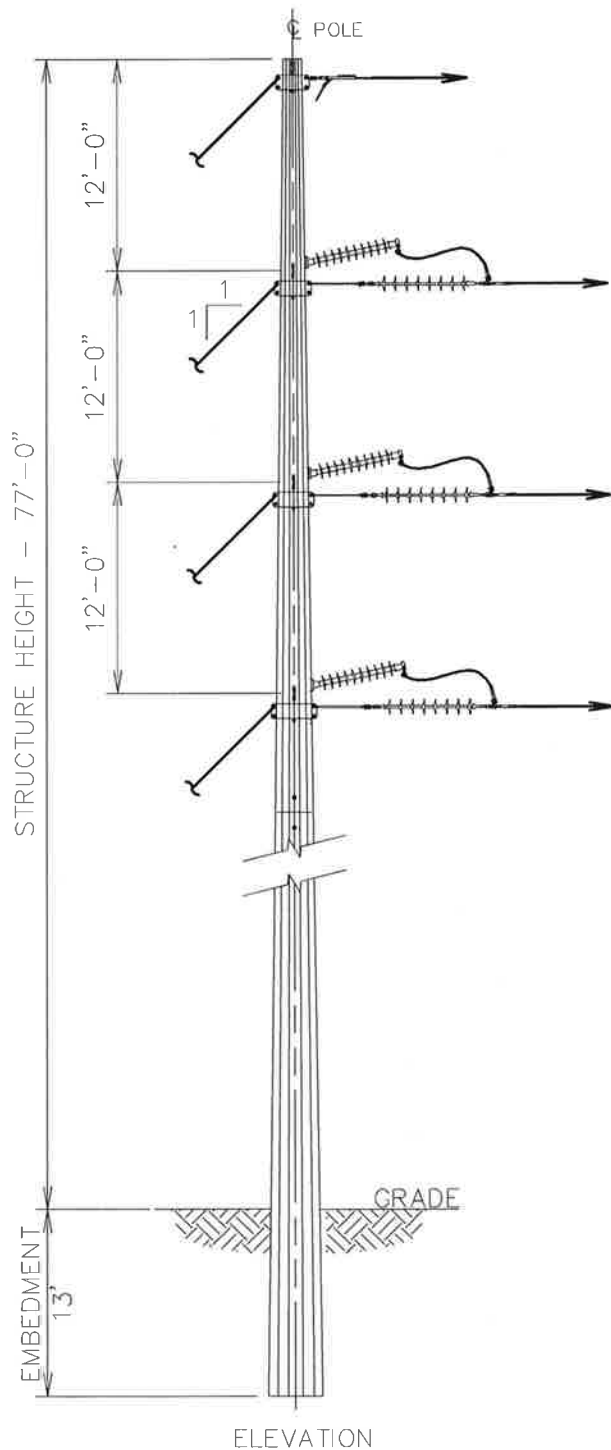
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138kV TRANSMISSION LINE SELF-SUPPORT DEADEND STRUCTURE

DATE	05 MAY 2015	DWG NO.	REV
DRAWN	JLC	N7403T-DT3-52004	A
ENG.		SCALE 3/32"=1'-0"	SHEET Sh. 1 of 1



GUYED DEADEND STRUCTURE

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138kV TRANSMISSION LINE GUYED DEADEND STRUCTURE

DATE 05 MAY 2015

DWG NO.

REV

DRAWN JLC

N7403T-DT3-52005

A

ENG.

SCALE 3/32"=1'-0" SHEET Sh. 1 of 1

APPENDIX C

Reclamation Plan

RECLAMATION PLAN

Iron Springs 138kV generation line project Seed Mix: This seed mix is appropriate for drilling or broadcasting in all sites on or adjacent to the line right-of-way.

Species Common Name	Pounds Pure Live Seed per Acre*
GRASSES	
Indian ricegrass	2.0
Needle-and-thread grass	1.0
Bluebunch Wheatgrass	1.5
Sandberg Bluegrass	0.5
Western wheatgrass	1.0
Thickspike wheatgrass	1.5
Bottlebursh Squirreltail	0.5
FORBS	
Western Yarrow	0.25
Alfalfa	1.0
Small Burnett	1.0
Lewis Flax	0.5
Globemallow	0.5
Cicer Milkvetch	0.25
Palmer Penstemon	0.5
TOTAL	12.00 pounds

* Quantities are for drill seeding. If broadcasting, including hydromulching, use 1.5 x this amount. Seed that is strictly broadcast shall be covered using approved equipment.

Seed is to be applied any time between October 15 and December 15 following ground disturbance.

Reclamation Plan – Iron Springs 138kV generation line (continued)

General Reclamation Standards

- Erosional features are equal to or less than those in the surrounding area as indicated by lack of gullying, head cutting, deep or excessive rilling (greater than 3 inches). Water naturally infiltrates into the soil rather than running off the surface. Ground surfaces may be left roughened to aid in preventing runoff and to discourage OHV use of the ROW.
- Sites are to remain free of all county and state-listed A, B and C category noxious weeds. Weed monitoring will occur annually for the first three years after reclamation, starting during the first growing season, and continue annually until the site is free of listed noxious weeds (see Attachment A). Noxious weeds will be treated by a licensed contractor during or following each monitoring event. After the third (or subsequent) year of monitoring and treatment, if noxious weeds have been eliminated, then the monitoring and treatment will take place every other year over the life of the project.
- No hazardous substances, trash or litter is buried or obvious on ground surface. Litter includes non-biodegradable substances used in reclamation, such as silt fencing, flagging, etc. (straw wattles, natural mulch materials, etc. are not considered litter).
- Seeded vegetation establishment is successful as indicated by an average of two seeded (or desirable*) species per square foot within a time frame of three years following the seeding effort. Ten locations will be uniformly selected along the length of the ROW centerline and permanently marked with stakes for use during each monitoring event. A one-foot square frame will be randomly tossed twenty times at each of the ten locations within the ROW; the 20 tosses will be distributed evenly around each stake, with 4 to 6 frames landing within each quarter (90-degree arc). At each toss location, the species and number of plants that the frame encompasses will be recorded. Monitoring will be conducted by an individual or individuals retained by the grant holder who have basic botanical competency in identifying the plant species contained in the seed mix, noxious weeds, and native plants.

* A “desirable” species is one which may not have been seeded, but instead naturally occurs on the site, which in BLM’s opinion is favorable for site reclamation

Attachment A Noxious Weeds List

Common Name	Scientific Name	State of Utah Designations ¹	Iron County
Bermudagrass	<i>Cynodon dactylon</i>	Class B	X
Black Henbane	<i>Hyoscyamus niger</i>	Class A	X
Bull Thistle	<i>Cirsium vulgare</i>		X
Canada Thistle	<i>Cirsium arvense</i>	Class C	X
Dalmation Toadflax	<i>Linaria genistifolia</i>	Class B	X
Diffuse Knapweed	<i>Centaurea diffusa</i>	Class A	X
Dyer's Woad	<i>Isatis tinctoria</i>	Class B	X
Field Bindweed	<i>Convolvulus arvensis</i>	Class C	X
Hoary Cress/Whitetop	<i>Cardaria draba</i>	Class B	X
Houndstongue	<i>Cynoglossum officinale</i>	Class C	X
Johnsongrass	<i>Sorghum halepense</i>	Class A	
Leafy Spurge	<i>Euphorbia esula</i>	Class A	X
Medusahead	<i>Taeniatherum caput-medusae</i>	Class A	X
Musk Thistle	<i>Carduus nutans</i>	Class B	X
Oxeye Daisy	<i>Chrysanthemum leucanthemum</i>	Class A	
Perennial Pepperweed	<i>Lepidium latifolium</i>	Class B	X
Poison Hemlock	<i>Conium maculatum</i>	Class B	X
Puncturevine	<i>Tribulus terrestris</i>		X
Purple Loosestrife	<i>Lythrum salicaria</i>	Class A	X
Quackgrass	<i>Elytrigia repens</i>	Class C	
Russian Knapweed	<i>Centaurea repens</i>	Class B	X
St. John's wort	<i>Hypericum perforatum</i>	Class A	X
Saltcedar	<i>Tamarix ramosissima</i>	Class C	X
Scotch Thistle	<i>Onopordum acanthium</i>	Class B	X
Spotted Knapweed	<i>Centaurea maculosa</i>	Class A	X
Squarrose Knapweed	<i>Centaurea virgata</i>	Class B	
Sulfur Cinquefoil	<i>Potentilla recta</i> L.	Class A	
Whorled milkweed	<i>Asclepias verticillata</i>		X
Yellow Starthistle	<i>Centaurea solstitialis</i>	Class A	X
Yellow Toadflax	<i>Linaria vulgaris</i>	Class A	X

Sources: <http://www.utahweed.org/weeds.htm>, accessed 06/02/15;
<http://www.ag.utah.gov/documents/CountyNoxiousWeeds.pdf>, 2009 list, accessed 06/02/15

¹ **Class A** - weeds have a relatively low population size within the State and are of highest priority being an *Early Detection Rapid Response* (EDRR) weed; **Class B** - weeds have a moderate population throughout the State and generally are thought to be controllable in most areas; **Class C** - weeds are found extensively in the State and are thought to be beyond control. Statewide efforts would generally be towards containment of smaller infestations.

APPENDIX D

Biomass Project Design Features

BIOMASS PROJECT DESIGN FEATURES

1. Work Sequence
 - a. All treatments shall be performed in an organized systematic manner as determined in the purchaser's annual work plans and approved by the BLM.
 - b. All material cut between May 1 and August 31 must be removed or stockpiled at BLM approved landings per the Utilization Standard, and the non-merchantable slash treated per the following stipulations within 6 weeks of cutting.
 - d. Material cut between September 1 and April 30 must be removed or stockpiled at BLM approved landings per the Utilization Standard and the non-merchantable slash treated per the following stipulations by June 15 following the cutting treatment.
 - e. Landings must be cleaned up and rehabilitated within 6 months of creation or prior to the termination date, whichever is earlier.
2. Merchantable Biomass All merchantable materials, as defined by the Utilization Standard, are optional removal. The contractor is encouraged to remove and utilize smaller material if possible, at no additional cost.
3. Utilization Standard. Minimum piece sizes are shown in the table below and described as included biomass. All materials meeting or exceeding the Minimum Piece Size are defined as Merchantable Biomass.

Minimum Piece Size Standards	
Diameter at Root Collar (drc)	8 inches
Number of Pieces per Tree	One
Minimum Piece Length	6 feet
Minimum Small-End Diameter (inside bark)	3 inches

4. Slash Treatment. All non-merchantable biomass that exceeds three (3) inches in diameter will be treated as follows. Any merchantable biomass that is not removed will also be treated to the following standards. These specifications address insect and fire-risk concerns.
 - a. All green pinyon pine slash greater than three (3) inches in diameter shall be cut into lengths not to exceed 18 inches and scattered in a sunny location. If cutting is done between May 1 and August 31, green pinyon slash will be scattered at least 40' from any living pinyon pine that is greater than 1" in diameter at root collar (drc).
 - b. All dead pinyon slash and all green or dead juniper slash greater than three (3) inches in diameter shall be cut in lengths not to exceed four (4) feet.
 - c. All slash shall be in contact with the ground and rise no higher than 24 inches above the ground.

BIOMASS PROJECT DESIGN FEATURES

- d. All branches shall be severed from the main trunks of cut trees as close to the main stem as is feasible.
 - e. Alternatively to lopping, slash may be chipped and the chips may be removed or scattered. For (only) green pinyon pine biomass cut between May 1 and August 31: green pinyon chips shall not be scattered within 40' of living pinyon pine greater than 1" drc. These dates do not apply to dry material or to juniper, nor to green pinyon chipped between September 1 and April 30.
5. Protection of Vegetation and Soil - Contractor's operations shall not unnecessarily damage leave trees, other vegetation, or soil. Access roads and trails shall be kept to the minimum necessary for operations.
6. Operating Schedule - Before commencing activities, the Contractor shall provide, in writing, an operating schedule for the work activities and needs for operations. Include such items as the locations of landings, skid trails, and material stockpile sites.

Appendix C. Iron Springs Generation-Tie Line Baseline Biological Studies

Technical Memorandum

To:	Sheri Whitfield	From:	J. Reid, S. Kite, W. Rieth
Company:	Bureau of Land Management	Date:	April 8, 2015; rev. April 28 and May 19, 2015
Address:	176 East D.L. Sargent Drive, Cedar City, Utah 84721	Project No.:	114-520272X
Re:	SunEdison Iron Springs Generation-Tie Line Baseline Biological Studies		
CC:	Sarah McCall, Michele Weidner		

SunEdison proposes construction of the Iron Springs Gen-tie Line Project (Project). The baseline biological surveys reported herein were conducted for the original Project design, which consisted of a 6-mile, 138-kilovolt (kV) generation-tie (gen-tie) line that included two alternative spurs at the southwest end to connect a proposed solar energy generation facility (to be located on private land) with the Rocky Mountain Power Three Peaks Substation in Iron County, Utah. Following baseline biological surveys, the west-east alternative connection spur was eliminated from the Project design. This survey report includes all species found during 2015 baseline biological surveys.

The gen-tie line right-of-way (ROW) would be 100-feet wide, and would cross 2.14 miles of public land managed by the Bureau of Land Management (BLM), Cedar City Field Office (**Figure 1A**). The Project is located at Township 34 South, Range 12 West, Sections 35 and 36; and Township 35 South, Range 12 West, Sections 1, 12, 13, 24, 25, and 26, approximately 6 miles northwest of Cedar City, Utah.

The BLM will analyze potential impacts of authorizing the Project ROW in an Environmental Assessment (EA). Initial Project coordination with the BLM identified the need to conduct baseline biological surveys. Specifically, the BLM requested surveys for Utah prairie dog (*Cynomys parvidens*) and migratory birds, with a focus on nesting raptors and burrowing owls (*Athene cunicularia*). This memo documents the methods and results of these baseline studies.

Key wildlife habitats identified in the Utah Comprehensive Wildlife Conservation Strategy (Gorrell et al. 2005) that are present in the Project area include high desert scrub, grassland, pinyon-juniper, and agriculture. Wildlife associated with these habitats includes small mammals, meso-carnivores, songbirds, raptors, toads, lizards, and snakes.

Utah Natural Heritage Program Data

Tetra Tech made a request to the Utah Natural Heritage Program (UNHP) to query their database for known occurrences of species of concern proximal to the Project. The UNHP response letter dated April 3, 2015 (included as **Attachment 1**) stated that there are records of occurrence for bald eagle (*Haliaeetus leucocephalus*), burrowing owl, and Utah prairie dog within a half-mile radius of the Project. In addition, there are records of occurrence for ferruginous hawk (*Buteo regalis*) and pygmy rabbit (*Brachylagus idahoensis*) within a two-mile radius. These species were considered in the baseline surveys; however, a protocol-based survey for pygmy rabbit was not conducted as this species was not identified by BLM as one of concern for the Project area. Also, the Project area does not include suitable habitat for pygmy rabbits, which require relatively large swaths of tall, dense big sagebrush.

(*Artemisia tridentata*), primarily along ephemeral channels. The remainder of the Project area is pinyon-juniper mixed with sagebrush, salt-desert scrub, and pasture/agricultural lands.

Utah Division of Wildlife Resources Utah Prairie Dog Data

Tetra Tech made a request to the Utah Division of Wildlife Resources (UDWR) to query their database for mapped Utah prairie dog colonies within the Project ROW. The UDWR response letter dated April 27, 2015 (included as **Attachment 2**) stated that the UDWR found no mapped Utah prairie dog colonies inside the ROW or associated 1,100-foot buffer of the Project.

Utah Prairie Dog Survey

Background – The Utah prairie dog is listed as a threatened species under the Endangered Species Act (ESA). According to Section 7 of the ESA, any BLM-authorized action must not jeopardize the continued existence of any proposed, threatened, or endangered species or designated critical habitat. BLM required completion of a baseline Utah prairie dog survey during the prairie dog active season (April 1 to August 31) in order to determine occupancy and extent of suitable habitat in the Project area, and to evaluate potential Project effects to this species.

Currently, Utah prairie dogs occur in Beaver, Garfield, Iron, Kane, Piute, Sevier, and Wayne counties in Utah. Populations declined from the 1920s to the 1970s due to poisoning, sylvatic plague, drought, and habitat alterations that resulted from agriculture and grazing practices (USFWS 2012). Typical habitat is semi-desert shrub-steppe and grasslands, where soils are at least 1 meter (3.3 feet) deep and well drained. Colonies are located in areas with short vegetation. Areas of dense shrubs are avoided. They are predominantly herbivores, with grass comprising most of their diet. Utah prairie dogs are often found near swale landforms where moisture allows herbaceous vegetation (food) to grow through drought periods. They spend four to six months underground during the winter months. Male and females are active above ground from approximately April 1 to August 31, though males may emerge earlier (USFWS 2012).

Methods – Prior to conducting the survey Tetra Tech coordinated with BLM to identify the Utah prairie dog survey area (Action Area) and confirm survey methods. BLM determined that the Action Area would be delineated by a 1,100-foot buffer from the edge of the 100-foot gen-tie line ROW, and that Low Intensity Survey methods would be used per the United States Fish and Wildlife Service (USFWS) *Utah Prairie Dog Occupancy and Habitat Survey Protocol* (USFWS Protocol) ((USFWS 2014). BLM directed Tetra Tech that should Utah prairie dog sign or individuals be found, Tetra Tech was to call the BLM and coordinate further. The Action Area at the time of the survey included two alternative spurs to connect the ROW with the private land where the solar development will be located. The west-east spur was later removed from Project designs.

The survey was conducted on April 1, 2015 by Tetra Tech biologists, Jill Reid and Sean Kite, both certified Utah prairie dog biologists who completed a USFWS approved Utah prairie dog survey training course. Surveys were conducted following the USFWS Protocol (USFWS 2014). The survey was conducted in suitable prairie dog habitat within the Action Area, which included grassland or low-density shrublands, agricultural fields, and vacant lots.

Tetra Tech biologists surveyed the Action Area to identify suitable habitat by foot and vehicle (established roads only). Low Intensity Survey methods were followed in areas of suitable habitat, resulting in 100 percent coverage of the Action Area. Biologists moved to a High Intensity Survey in the southern portion of the Action Area after documenting Utah prairie dogs along the west-east alternative spur. The High Intensity Survey involved walking parallel transects no more than 30 meters apart through all suitable habitat in the Action Area, searching 15 meters on both sides of the transects for

burrows and other signs of Utah prairie dogs. A GPS unit was used for orientation and to document all suitable habitat. Biologists stopped periodically to scan the surrounding area with binoculars for the presence of Utah prairie dogs and listen for Utah prairie dog vocalizations.

Where occupied Utah prairie dog habitat was found, Tetra Tech biologists conducted Utah prairie dog counts in accordance with the methods specified in the USFWS Protocol (USFWS 2014). The biologists recorded the maximum total number of Utah prairie dogs observed. Counts were conducted:

- On calm, sunny days when cloud cover was less than 40 percent, winds were less than 12 miles per hour and the ground was snow free.
- Between 0800 and 1800 hours.
- From a vantage point which provided an unobstructed view of the entire colony.
- At least three times at each colony.

Any Utah prairie dog colony encountered within the Action Area was mapped using a GPS unit. The perimeter burrow locations were used to define the approximate boundary of all Utah prairie dog colony polygons. Each Utah prairie dog colony polygon was assigned a unique identification number. In addition, suitable habitat in the Action Area was determined and marked on hard copy maps in the field, and digitized over aerial photographs post-field work.

Results – Suitable Utah prairie dog habitat in the Action Area included patches of pasture/grassland in the southern portion of the survey area (**Figure 1A** and **Figure 1B**). Approximately 143 acres (7.6 percent) of the Action Area (ROW plus 1,100-foot buffer including both alternative spurs) is suitable Utah prairie dog habitat. All mapped suitable habitat in the Action Area is on private land. Of the 143 acres of suitable habitat in the Action Area, 6 acres (7.6 percent) are within the 100-foot ROW, which includes the two alternative spurs. (With the elimination of the west-east spur, approximately 0.24 acre of suitable Utah prairie dog habitat occurs in the Project 100-foot ROW.)

Sagebrush in the southern portion is moderately dense with shrubs, making it unlikely that Utah prairie dogs would use these shrublands given the proximity of more open habitat types. Much of the northern portion of the Action Area is pinyon-juniper mixed with denser sagebrush and would not provide suitable habitat for Utah prairie dogs. Land use in the immediate vicinity of the Project includes agricultural activities, ranching, cattle and horse grazing activities.

Utah prairie dogs and their burrows were documented on both sides of the alternate west-east spur centerline located in the southern portion of the Project. One active colony was mapped within the suitable habitat. Ten adult prairie dogs were documented. The colony is located on private land. All information regarding the survey is documented on the Utah Prairie Dog Survey Form (included as **Attachment 3**). The mapped boundaries are shown on **Figure 1A** and **Figure 1B**. The geospatial data for the habitat polygons was provided to BLM in ESRI compatible format with the associated attributes specified in the USFWS Protocol (USFWS 2014). Habitat in the occupied area consisted of sagebrush and grass. Photos of the occupied Utah prairie dog colony and suitable Utah prairie dog habitat are included in **Attachment 4**.

BLM Wildlife Biologist, Sheri Whitfield, accompanied the Tetra Tech biologists in the field on Thursday, April 2, 2015 to verify the Utah prairie dog colony. The colony activity was verified by all parties present. The colony is a previously unmapped colony. During the May raptor survey event, Tetra Tech biologists revisited the new Utah prairie dog colony and noted that it was still active. The closest previously documented colony is the Three Peaks Utah Prairie Dog Colony which is located approximately 1.3 miles to the west of the edge of the Project ROW.

Raptor Nest Survey

Methods – Tetra Tech biologists conducted the first of two raptor surveys in the Project area on March 31 and April 1, 2015. A second survey was conducted on May 6 and May 7, 2015. The raptor nest survey area encompassed the entire length of the 100-foot wide, 6-mile long ROW and an associated 1-mile buffer. Prior to field work, Tetra Tech obtained known raptor nest locations in the survey area from the BLM raptor nest database. One previously documented nest was within 1-mile of the Project area, which was a ferruginous hawk nest first observed in 1995 (BLM ID: UT040000442).

Two Tetra Tech biologists completed the raptor survey from a vehicle and on foot. The biologists inspected the entire survey area for occupied or unoccupied nests using binoculars and spotting scopes and also by listening for calls. All migratory birds observed during the survey were recorded.

Results – During the raptor survey on March 31, 2015, the weather was partly cloudy with winds approximately zero to 10 miles per hour with temperatures ranging from 45 to 60 degrees Fahrenheit (F). On April 1, 2015, it was clear and sunny with light winds approximately zero to 10 miles per hour with temperatures ranging from 50 to 65 degrees F. Weather during the May event was partly cloudy with temperatures between 49 and 65 degrees F.

Figure 1A and **Figure 1B** depict the results of the raptor nest survey event. The ferruginous hawk nest from the BLM raptor nest database was confirmed to be in a dilapidated condition and has not been used for some time. One stick nest in poor condition was found during the second raptor nest survey event. This nest was in a juniper tree located southwest of the historic ferruginous hawk nest location. A pair of burrowing owls were observed in the southwest area of the Project on private land during the first raptor nest survey event. The pair was associated with two burrows within the Utah prairie dog colony, approximately 375 feet from the edge of the west-east alternative spur ROW. During the second raptor nest survey event, the burrowing owl burrows were checked. No burrowing owls were observed, but evidence of burrowing owl use was found at the burrow locations. Photos of the historic ferruginous hawk nest and the burrowing owl burrows are included in **Attachment 4**. Raptor species observed during both survey events included red-tailed hawk (*Buteo jamaicensis*) and Swainson's hawk (*Buteo swainsoni*). During the second survey event, turkey vulture (*Cathartes aura*) was documented.

The *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbance* recommends a spatial buffer of 0.25 mile and a seasonal buffer from March 1 to August 31 for nesting burrowing owls near surface disturbing projects (Romin and Muck 2002). The Project ROW is within 0.25 mile of the burrowing owl nest burrows.

Migratory Birds

In addition to raptors and special-status bird species, which were discussed above, the baseline surveys considered other migratory birds, with an emphasis on birds classified as Birds of Conservation Concern (USFWS 2008) and Priority Species in the Partners in Flight (PIF) Avian Conservation Strategy (Parrish et al. 2002). Other migratory birds observed in the Project area during the first survey event included: common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), and western meadowlark (*Sturnella neglecta*). The second survey event documented the following species of other migratory birds: common raven, white-crowned sparrow (*Zonotrichia leucophrys*), Bullock's oriole (*Icterus bullockii*), western kingbird (*Tyrannus verticalis*), Stellar's jay (*Cyanocitta stelleri*), mountain bluebird (*Sialia currucoides*), Brewer's blackbird (*Euphagus cyanocephalus*), and barn swallow (*Hirundo rustica*).

A potential long-billed curlew (*Numenius americanus*) nest location was documented in the southwestern portion of the Project area during the first survey event. The long-billed curlew is considered a fairly common summer resident and migrant in Utah; however, overall their presence has decreased in the past century (Parrish et al. 2002). The species nests in grassland or agricultural areas on the ground in a scraped or grass-lined depression, laying only one clutch of typically four eggs in a season (UDWR 2015). Nesting may begin as early as late March, with an incubation period of between 27 to 31 days (Dugger and Dugger 2002). An adult was observed sitting and another adult was standing nearby; both exhibiting behaviors which suggested a potential nest at the site. However, the biologists did not approach the site closer than 150 feet to avoid disturbing the birds. No actual nest or eggs was confirmed. The location is shown on **Figure 1A** and **Figure 1B**, and a photo is included in **Attachment 4**. Tetra Tech re-visited the area in May, but curlews were not present.

Wildlife Observations

Table 1 lists all species observed during the raptor and Utah prairie dog surveys.

Table 1. Species Observed During Baseline 2015 Biological Surveys for Iron Springs Gen-Tie Project

Species	Number Observed March 2015	Number Observed May 2015	Notes
Birds			
Barn Swallow (<i>Hirundo rustica</i>)	-	20 Adults	Approximately twenty were observed in the southern portion of the survey area.
Brewer's Blackbird (<i>Euphagus cyanocephalus</i>)	-	6 Adults	Six were observed in the southern portion of the survey area.
Bullock's Oriole (<i>Icterus bullockii</i>)	-	1 Adult	One adult was observed approximately 0.75 mile from the Project ROW in Section 19 during the second survey event. Likely a migrant.
Burrowing Owl (<i>Athene cunicularia</i>)	2 Adults	-	Two adults were observed within 0.5 mile of the Project; to the southwest of the survey area during the first survey event. During the second survey event, no burrowing owls were observed; however, signs of recent burrowing owl use was observed at each of the two burrow sites.
Common Raven (<i>Corvus corax</i>)	100+ Adults	40+ Adults	Common ravens were observed on the ground or flying throughout the Project area during both survey events. An unoccupied nest was documented approximately 0.75 mile from the Project ROW in Section 19.

Species	Number Observed March 2015	Number Observed May 2015	Notes
Horned Lark (<i>Eremophila alpestris</i>)	20 Adults	-	Twenty were observed throughout the survey area.
Long-billed Curlew (<i>Numenius americanus</i>)	2 Adults	-	One female and one male were observed within the southwest portion of the Project area during the first survey event. During the second survey event, no curlews were observed.
Mountain Bluebird (<i>Sialia currocoides</i>)	-	8 Adults	Eight were observed in the central portion of the survey area.
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	1 Adult	1 Adult	During each survey event, one adult was observed soaring over the Project area.
Stellar's Jay (<i>Cyanocitta stelleri</i>)	-	3 Adults	Three were observed in the northern portion of the survey area.
Swainson's Hawk (<i>Buteo swainsoni</i>)	1 Adult	1 Adult	During the first survey event, one adult was observed perched on a fence post along the eastern edge of the survey area. During the second survey event, one adult was observed soaring along the eastern edge of the survey area.
Turkey Vulture (<i>Cathartes aura</i>)	-	1 Adult	One adult was observed soaring above the survey area.
Western Kingbird (<i>Tyrannus verticalis</i>)	-	4 Adults	Four were observed at the southern end of the survey area.
Western Meadowlark (<i>Sturnella neglecta</i>)	20 Adults	-	Twenty were observed throughout the survey area.
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	-	5 Adults	Five were observed at the southern end of the survey area.
Mammals			
Black-tailed Jackrabbit (<i>Lepus californicus</i>)	12 Adults	8 Adults	Observed throughout the survey area during both survey events.

Species	Number Observed March 2015	Number Observed May 2015	Notes
Mule Deer (<i>Odocoileus hemionus</i>)	2 Adults	-	Two mule deer were observed foraging in juniper habitat.
Piute Ground Squirrel (<i>Urocitellus mollis</i>)	6 Adults	4 Adults	Observed within the southern portions of the Project survey area during both survey events.
Utah Prairie Dog (<i>Cynomys parvidens</i>)	10 Adults	5 Adults	During the first survey event, ten adults were observed and during the second survey event five adults were observed within 0.5 mile of the Project; on private land to the southwest.
Reptiles			
Western Fence Lizard (<i>Sceloporus occidentalis</i>)	-	1 Adult	One adult was observed west of the Project area.

References

- Dugger, B.D. and K.M. Dugger. 2002. Long-billed Curlew (*Numenius americanus*). In The Birds of North America, No. 628, Philadelphia, From www.allaboutbirds.org Accessed April 2015.
- Gorrell, J.V., M.E. Andersen, K.D. Bunnell, M.F. Canning, A.G. Clark, D.E. Dolsen, and F.P. Howe. 2005. Utah Comprehensive Wildlife Conservation Strategy. September 9, 2005. Utah Division of Wildlife Resources. 280 pages.
- Parrish, J. R., F. P. Howe, R. E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, UT 84116, UDWR Publication Number 02-27. i-xiv + 302 pp.
- Romin, L.A. and J.A. Muck. 2002. Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances. U.S. Fish and Wildlife Service, Utah Field Office, Salt Lake City, Utah. January 2002 update.
- U.S. Fish and Wildlife Service (USFWS). 2014. Utah Prairie Dog Occupancy and Habitat Survey Protocol for Federal Section 7 Consultations. May 2014.
- _____. 2012. Utah Prairie Dog (*Cynomys parvidens*) Final Revised Recovery Plan. Utah Ecological Services Field Office, U.S. Fish and Wildlife Service, West Valley City, Utah and Utah Prairie Dog Recovery Team. March 2012. 169 pages.
- _____. 2008. Birds of Conservation Concern. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. December 2008. 85 pages.

Utah Division of Wildlife Resources (UDWR). 2015. Utah Conservation Data Center, <http://dwrcdc.nr.utah.gov/ucdc/default.asp>. Accessed April 7, 2015.

Attachments

Attachment 1: UNHP Response Letter

Attachment 2: UDWR Response Letter

Attachment 3: Utah Prairie Dog Survey Form

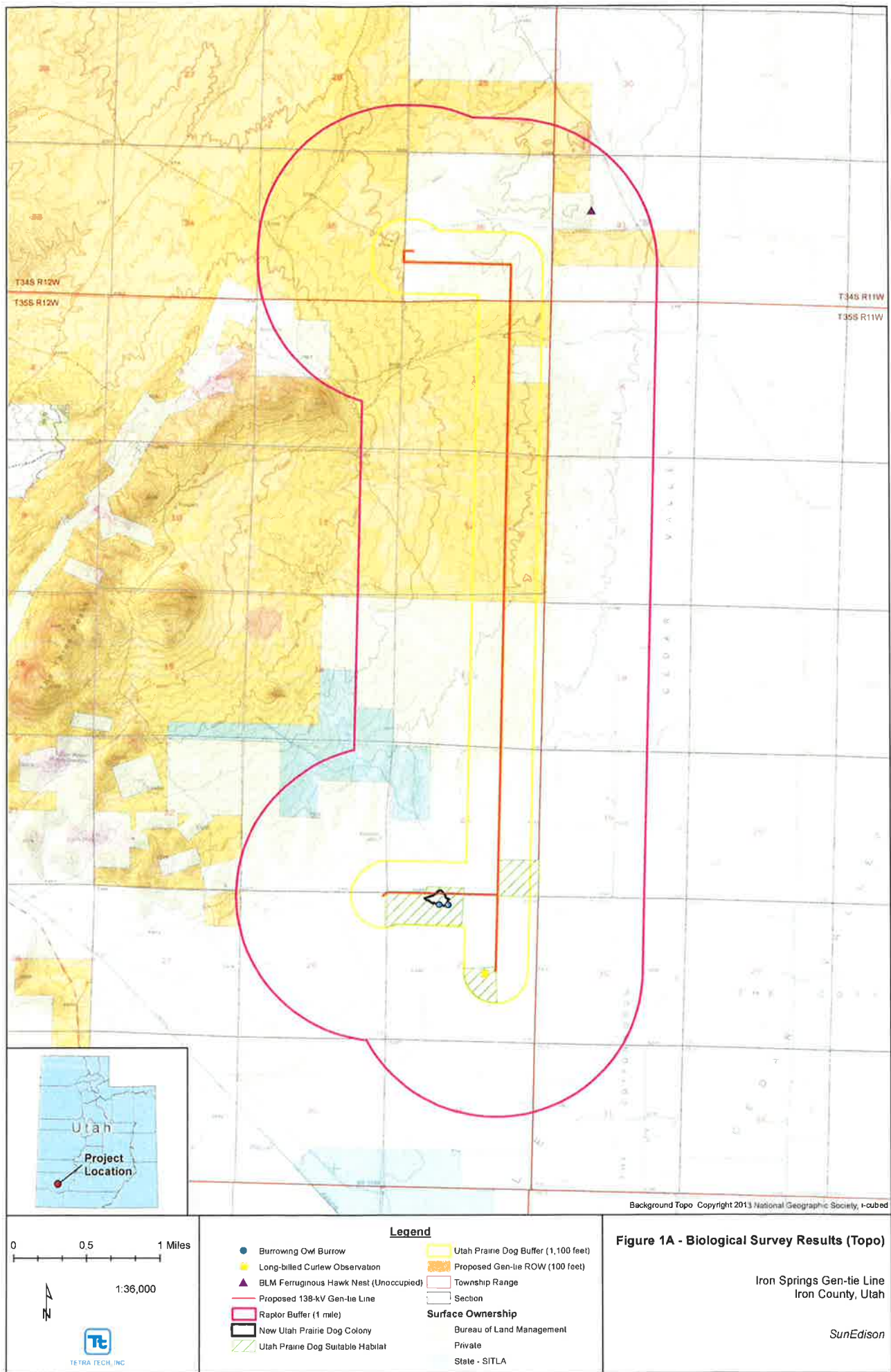
Attachment 4: Field Photographs

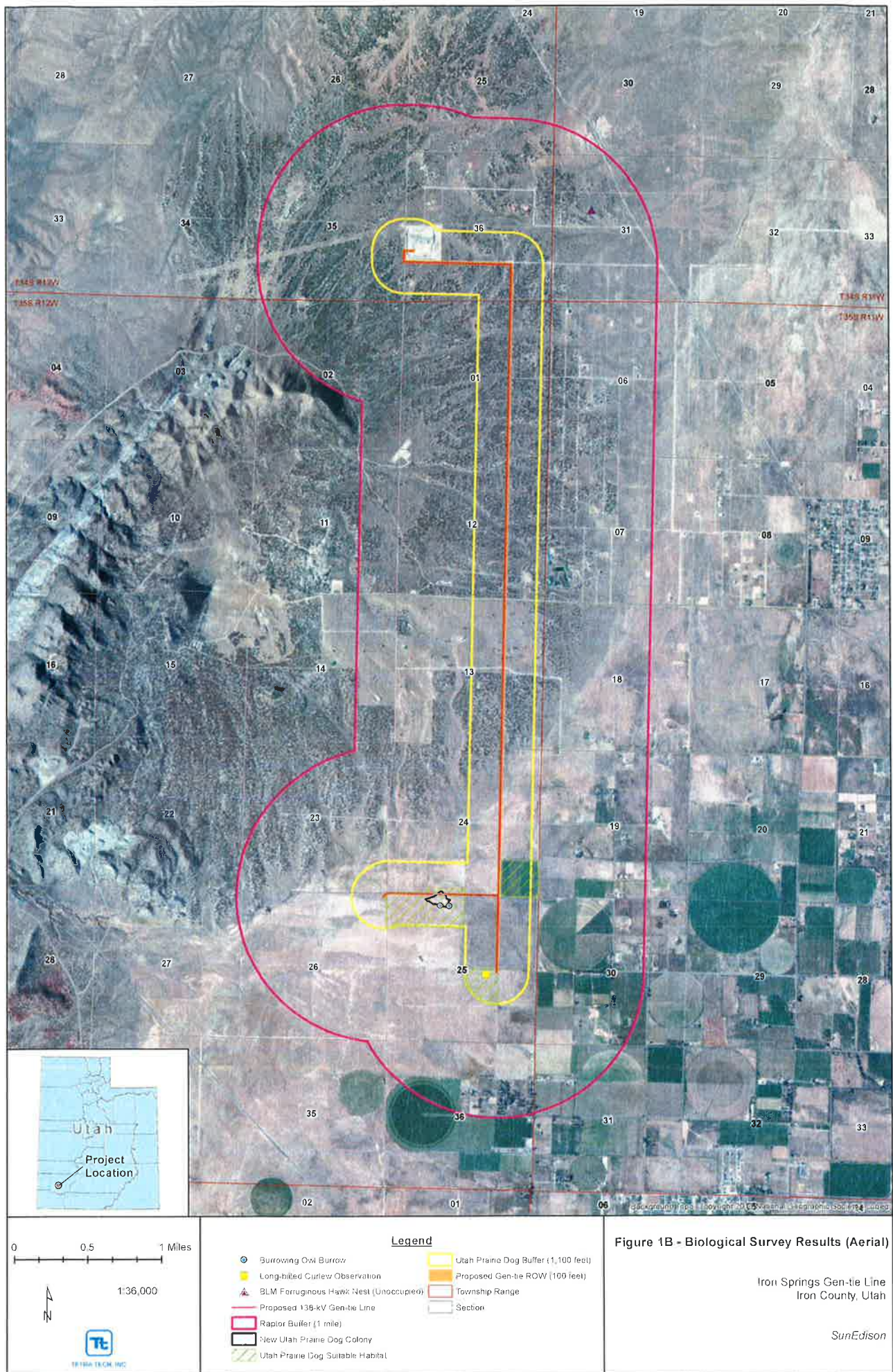
Figures

Figure 1A – Project Location and Survey Results (Topo)

Figure 1B – Project Location and Survey Results (Aerial)

Figures





Attachment 1: UNHP Response Letter



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources

GREGORY SHEEHAN
Division Director

April 3, 2015

Wendy Rieth
Tetra Tech
136 East South Temple, Suite 910
Salt Lake City, Utah 84111

Subject: Species of Concern Near the Iron Springs Generator Tie Line, Iron County, Utah

Dear Wendy Rieth:

I am writing in response to your email dated March 18, 2015 regarding information on species of special concern proximal to the proposed Iron Springs Generator Tie Line located in Section 36 of Township 34 South, Range 12 West, and Sections 1, 12, 13, 23, 24, 25 and 26 of Township 35 South, Range 12 West, SLB&M.

Within a ½-mile radius of the project area noted above, the Utah Division of Wildlife Resources (UDWR) has recent records of occurrence for bald eagle, burrowing owl and Utah prairie-dog. In addition, within a two-mile radius there are recent records of occurrence for ferruginous hawk and pygmy rabbit. All of the aforementioned species are included on the *Utah Sensitive Species List*.

The information provided in this letter is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, and because data requests are evaluated for the specific type of proposed action, any given response is only appropriate for its respective request.

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's habitat manager for the southern region, Gary Bezzant, at (435) 865-6113 if you have any questions.

Please contact our office at (801) 538-4759 if you require further assistance.

Sincerely,

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Gary Bezzant



Attachment 2: UDWR Response Letter



GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources

Gregory Sheehan
Division Director

April 27, 2015

Dear Michele R. Weidner:

The Division of Wildlife Resources (Division) has received your request for a shapefile of mapped Utah prairie dog colonies located in the right of way for the Iron Springs Gen-tie Line and associated 1,100-ft buffer. We have compared the GIS files of the subject action area you provided with our official 2014 colony maps and we found no mapped Utah prairie dog colonies inside the ROW or associated buffer of this project. Consequently, there is no need to send a map. If you have any questions please contact Jessica Van Woeart at (435) 691-5700.

Sincerely,

Teresa E. Griffin
Wildlife Manager

TEG:jvw



Attachment 3: Utah Prairie Dog Survey Form

Attachment 4: Field Photographs



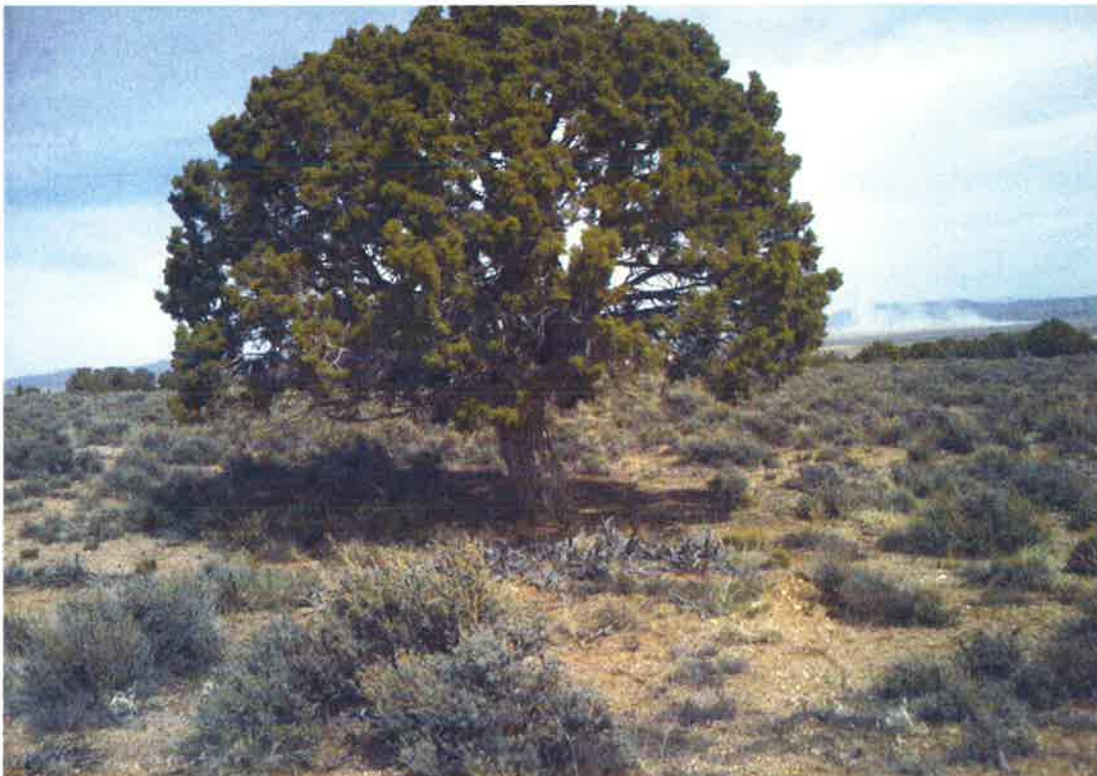
Looking west along the alternate west-to-east proposed ROW at the Utah Prairie Dog occupied colony and habitat. Private land, NE $\frac{1}{4}$, of NW $\frac{1}{4}$, Section 25.



Looking northeast at the junction of the alternate west-to-east and north-to-south proposed ROW at Utah Prairie Dog habitat. Private land, SW $\frac{1}{4}$, of SE $\frac{1}{4}$, Section 24.



Looking north from southern-most end of north-to-south proposed ROW at area identified as suitable Utah prairie dog habitat. Private land, NW $\frac{1}{4}$, of SE $\frac{1}{4}$, Section 25.



Historic ferruginous hawk nest location. Private land, SE $\frac{1}{4}$, of NW $\frac{1}{4}$, Section 31.



Burrowing owl burrow #1. Alternate west-to-east proposed ROW. Private land, NE $\frac{1}{4}$, of NW $\frac{1}{4}$, Section 25.



Burrowing owl burrow #2. Alternate west-to-east proposed ROW. Private land, NE $\frac{1}{4}$, of NW $\frac{1}{4}$, Section 25.



Long-billed curlew along fence line located at the south end of the north-to-south proposed ROW. Private land, NW¼, of SE¼, Section 25.



Habitat along the north-to-south proposed ROW. BLM land, S½, Section 12.